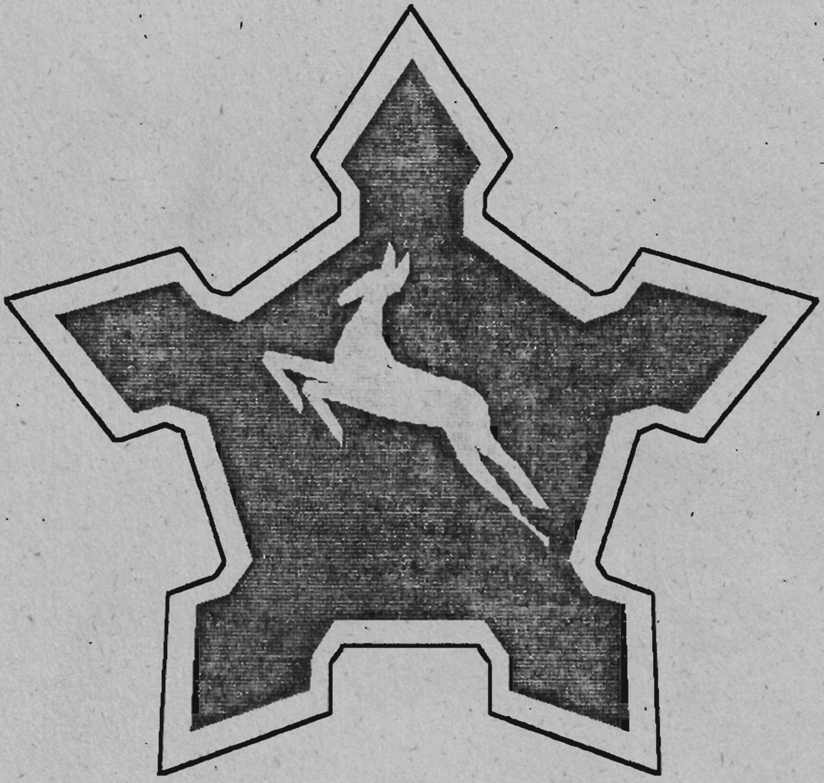
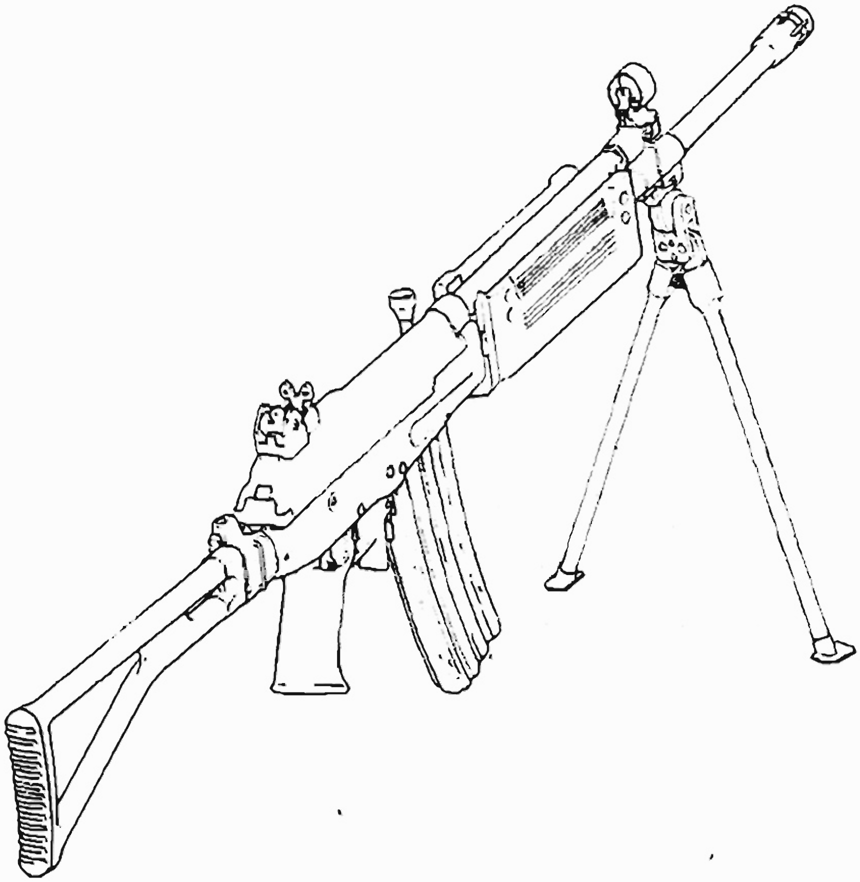
SOUTH AFRICAN DEFENSE FORCES



R-4

WORKSHOP REPAIR MANUAL



WORKSHOP REPAIR MANUAL

RIFLE 5,56 mm
ASSAULT R-4

Issue
JULY 1984

1

AMENDMENT RECORD SHEET

It is imperative that this publiction be kept up to date.
All amendments to this publication must be recorded below.

AMENDMENT NO.	DATE	GROUP & PAGE NO'S	INITIALS

PREFACE

1. This Workshop Repair Manual contains sufficient instructions in order to:

   a. Replace.
   b. Effect repairs.
   c. Adjust.
   d. Test.
   e. Inspect.
   f. Find faults.
   g. Maintain.

   any assembly, sub-assembly, or part of a system.

2. All necessary information and the correct sequence for carrying out stripping and repair jobs are detailed in this manual.

3. All information contained in this manual is in accordance with the correct repair procedures and supersedes all other manuals.

4. It is not adviseable to deviate from these instructions.

5. The content of the manual is arranged in the standard format of Sections, in which a specific functional unit or assembly is covered.

6. Each section contains information in the following sequence:

   a. Brief description.
   b. Fault finding, diagnostic and corrective procedures.
   c. Stripping and assembling procedures.
   d. Cleaning and inspection procedures.
   e. Repair procedures.
   f. Special workshop tools.

7. This Workshop Repair Manual consists of one volume only.

USE AND PRESENTATION OF THE MANUAL:

8. This Workshop Repair Manual is intended to provide guidance to workshop personnel carrying out minor and major adjustments and repairs to the 5,56mm R4 rifle. The instructions contained herein are set out in a step-by-step format and should enable workshop personnel, unfamiliar with the equipment, to carry out all adjustments and repairs necessary to maintain the weapon in good working order.

9. All necessary information and the correct sequence for carrying out replacement and repair work are detailed in this manual.

10. All information contained in this manual is in accordance with the correct repair procedures as considered necessary by the manufacturers. It is not advisable to deviate from these instructions.

ARRANGEMENT AND LAYOUT OF MANUAL:

11. The manual is divided into fourteen sections, each section dealing with a specific aspect of major assembly directly related to the main subject. Each section is further divided into sub-sections, each relating to a specific subject or major assembly. Sub-sections are divided into chapters where necessary, each sub-section or chapter containing in-text subject or procedural headings, under which are textural paragraphs or paragraph groupings.

12. To locate a specific procedure, refer initially to the main contents list, then to the section contents list under which details of each sub-section and division thereof are given.

13. All instructions contained in this manual are arranged in a logical, step-by-step format. Where necessary an illustration is provided to support the text, each illustration immediately preceding the paragraph containing the relevant procedural description. Each illustration is numbered, the number being referred to at the commencement of the accompanying paragraph.

SPECIAL INSTRUCTIONS:

15. Throughout this manual, warnings and cautions will be encountered. These are given where special guidance is considered necessary to ensure the safety of personnel working with the equipment in question, and for the prevention of damage to the equipment itself. DO NOT IGNORE WARNINGS AND CAUTIONS.

16. Notes found in the text are provided where a specific point needs to be brought to the attention of personnel working with the equipment.

PAGE, FIGURE AND TABLE IDENTIFICATION:

GENERAL:

17. Pages, illustrations and tables are identified by using the same system of numbering. The numbering system is arranged so that by inspection of the number (whether it be page, illustration and table) its correct location in the manual can easily be found.

MAIN CONTENTS LIST

SECTION	DESCRIPTION	VOL. NO.
A	GENERAL INFORMATION AND TECHNICAL DATA	1
B	BARREL GROUP	1
C	RECEIVER GROUP	1
D	BREECH MECHANISM GROUP	1
E	COVER GROUP	1
F	TRIGGER MECHANISM GROUP	1
G	BUTT ASSEMBLY GROUP	1
H	BIPOD ASSEMBLY GROUP	1
I	SIGHT GROUP	1
J	MAGAZINE GROUP	1
K	NOT APPLICABLE	1
L	NOT APPLICABLE	1
M	FUNCTIONING AND FIRE TEST	1
N	FINAL INSPECTION	1
O	NOT APPLICABLE	
P	NOT APPLICABLE	
Q	NOT APPLICABLE	
R	NOT APPLICABLE	
S	NOT APPLICABLE	
T	NOT APPLICABLE	
U	NOT APPLICABLE	
V	NOT APPLICABLE	
W	NOT APPLICABLE	
X	NOT APPLICABLE	
Y	PRESERVATION AND PACKING	1
Z	SUMMARY OF WORKSHOP TOOLS	1

18. For example, each section is identified alphabetically and each sub-section is denoted numerically. Therefore, by checking the number grouping the location of every page. Illustration and table can be found. A typical breakdown of Section B is as follows:

a. Sub-section B4 (first sub-division).

b. Chapter 1 B4.1 (second sub-division).

19. The third illustration in Chapter 1 of Sub-section B4 is identified as B.4-3.

PAGE NUMBERING:

20 With regard to page numbering, the arrangement varies slightly to permit quick location of any page. For this purpose, the serial component of a page number follows a hyphen to ensure that it stands apart from its preceding alpha/numerical identifying components. This is shown in the following example:

a. Page 3 in Sub-section B4 is identified as B.4-3.

21. A complete breakdown of identifying components is shown as follows:

SECTION B

SUB-SECTION 4

PAGE NO. 3

B.4-3

AMENDMENTS:

22. All amendments to this publication shall be recorded on the amendment record sheet.

23. If any problems concerning this manual should arise they shall be brought to the attention of:

SECTION A

GENERAL INFORMATION AND TECHNICAL DATA

SECTION CONTENTS LIST

SECTION A

GENERAL INFORMATION AND TECHNICAL DATA

SUB-SECTION	DESCRIPTION	PAGE
A.1	DATA INFORMATION SHEET	A.1-1
A.2	GENERAL INFORMATION	A.2-1
A.3	TECHNICAL DATA	A.3-1
A.4	LOCATION OF SERIAL NUMBERS AND MARKINGS	A.4-1
A.5	NORMAL STRIPPING AND ASSEMBLING PROCEDURE	A.5-1
A.6	DEFINITIONS	A.6-1
A.7	GENERAL INSTRUCTIONS FOR MAINTENANCE AND REPAIR	A.7-1

SUB-SECTION A.1

DATA INFORMATION SHEET

MAKE: RIFLE 5.56mm ASSAULT R4

MANUFACTURER'S ADDRESS:

SUPPLIER'S ADDRESS:

ORDER NUMBER:

SUB-SECTION A.2

GENERAL INFORMATION

INTRODUCTION:

1. The R4 assault rifle is a multi-purpose personal weapon. designed to serve as a basic weapon for the infrantry. The rifle is lightweight. air cooled. gas operated, magazine fed and can be shoulder or hip fired. It can be used as an assault rifle and light machine gun (with bipod and butt extended). By the use of a change lever, the weapon fires automatically or semi-automatically, with a rate of fire of between 600-750 rounds per minute.

PRINCIPLE OF OPERATION

REARWARD MOVEMENT:

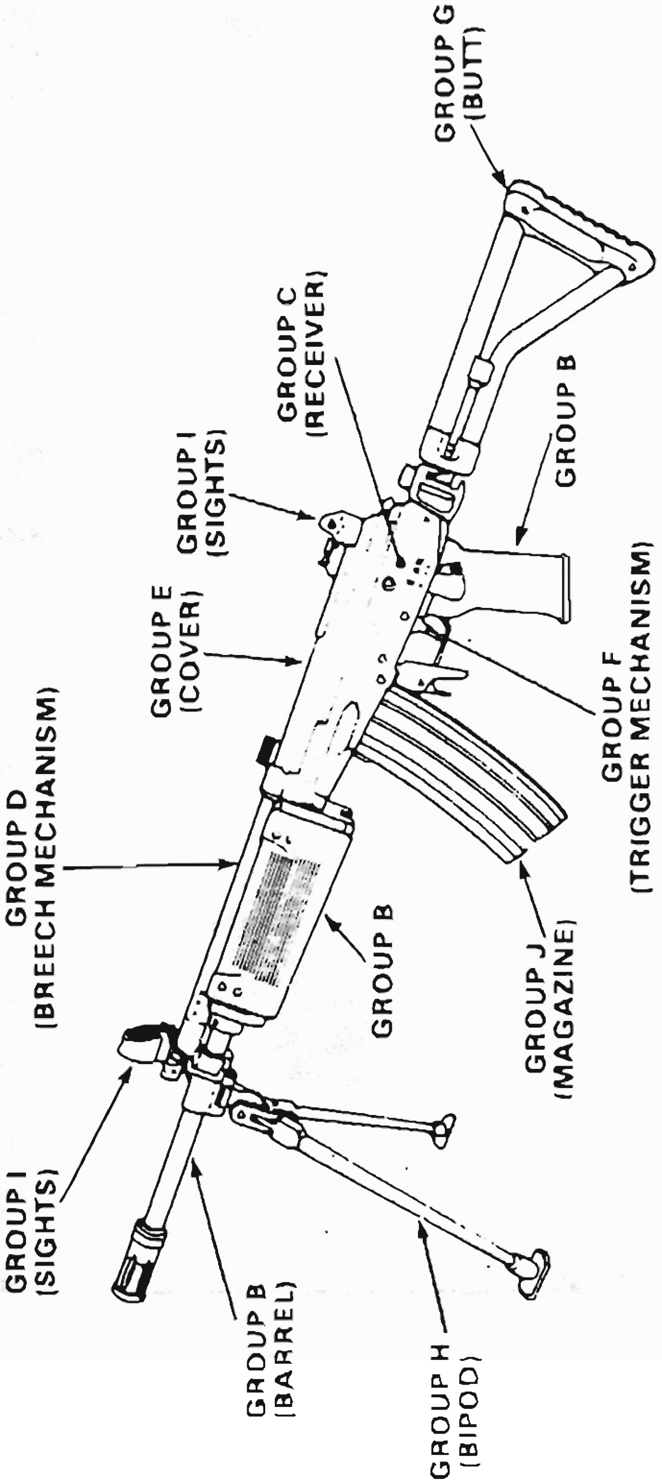
2. When the cartridge is fired. the pressure of the burnt propellant causes the bullet to move forward. When the bullet passes the gas port. gases under pressure enter the gas cylinder, push the gas piston and thrust the bolt carrier backwards (piston and bolt carrier are connected). The backward movement of the bolt carrier causes the bolt to rotate. This rotation of the bolt releases the empty cartridge case from the chamber and after the completion of the unlocking action the bolt carrier and the bolt retract together rearwards. thus completing the extraction operation. When the bolt carrier moves backwards. the return springs contracts and the empty cartridge case is ejected through the ejection opening by the ejector. During the retraction of the bolt carrier and bolt. the hammer is cocked and engaged to the trigger sear.

FORWARD MOVEMENT:

3. When the return spring expands, it drives the bolt carrier and bolt forward. The bolt scoops one cartridge from the magazine and transfers it to the chamber, and the extractor "grips" the cartridge case rim. The continuation of the forward movement causes the bolt to rotate and thus, through the locking lugs, completed the bolt carrier's grade reaches the disconnector, pushes it forward and causes the disconnector to turn and release the hammer. When pulling the trigger, the hammer is disengaged from the sear and strikes the firing pin which in turn strikes the primer of the cartridge inside the chamber.

GENERAL:

4. The R4 assault rifle consists of the following groups, as illustrated in Fig. A.2.1.


GROUP G (BUTT)
GROUP C (RECEIVER)
GROUP B
GROUP I (SIGHTS)
GROUP E (COVER)
GROUP F (TRIGGER MECHANISM)
GROUP D (BREECH MECHANISM)
GROUP B
GROUP J (MAGAZINE)
GROUP I (SIGHTS)
GROUP B (BARREL)
GROUP H (BIPOD)

SUB-SECTION A.3

TECHNICAL DATA

1. Weights	
a. Basic mass — with bipod	4.3 kg
b. 35 Round magazine — empty	300 g
c. 35 Round magazine — filled	710 g
d. 50 Round magazine — empty	440 g
e. 50 Round magazine — filled	1 kg
2. Lengths	
a. Overall — standard butt extended	970 mm
b. Overall — butt folded	740 mm
c. Length of barrel	460 mm
3 Calibre	5.56 mm
4. Muzzle Velocity (approximately)	980 m/sec
5. Ranges	
a. Maximum	600 m
b. Effective	
— Foresight. Post Type	100 m
— Rear sight. Flip type	300-500 m
— Night sight, folding. luminous	200 m
6. Number of grooves	6 grooves. RH Twist
7. Rate of fire, cyclic	650 Rounds/min
8. Height from bipod shoes to centre of barrel	285 mm
9. Basic mass without bipod and magazine	3.9 kg
10. Pitch, right hand	1 twist in 305 mm
11. Length of line of sight	475 mm
12. Mass of bullet	3.52 g
13. Mass of complete round	11.7 g
14. Trigger pull-off	1,7 to 4,0 kg at a distance of 14,0 mm below the body of single fire

SUB-SECTION A.4

LOCATION OF SERIAL NUMBERS AND MARKINGS

INTRODUCTION:

1. Serial numbers and markings provide valuable data in regards to the weapon as a whole and individual assemblies. The numbers and markings are located at convenient places and it is essential that before work is carried out the applicable serial numbers and markings should be checked. Moreover, repairs, replacements or modifications which effect the serial number or marking must be recorded and updated accordingly.
   See Fig. A.4.1

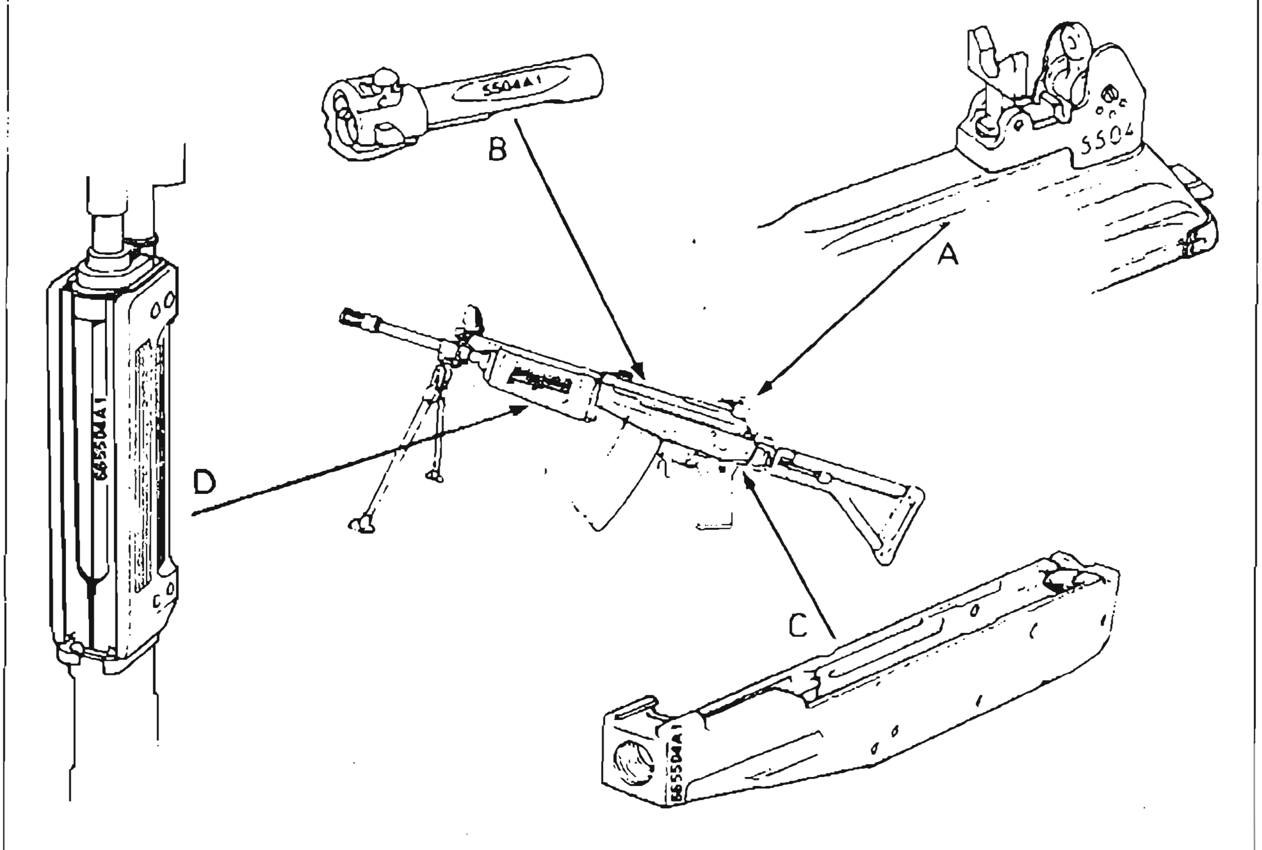


FIG. A.4.1

LOCATION OF SERIAL NUMBERS

2. In each instance the approximate location of the serial number and markings is shown in an illustration.

3. Only the barrel and receiver, where applicable, is marked with the complete eight figure number.

4. The following components are marked with the last six digits of the serial number of the weapon, as it appears on the barrel or receiver:

   a. Sight base on dust cover.

   b. Bolt assembly.

SUB-SECTION A.5

NORMAL STRIPPING AND ASSEMBLING PROCEDURE

INTRODUCTION:

WARNING:
Before starting the stripping procedure, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty, and check that no ammunition is in a position to be introduced.

1 The rifle is stripped to be cleaned, inspected, oiled or to replace broken, defective or worn components. This Sub-Section covers stripping and assembling of the various complete assemblies from and to the weapon. Stripping and assembling of assemblies into their component parts are dealt with in their relevant Sub-Sections.

STRIPPING METHOD:

2. Use the correct sequence.

3. Use the proper tools correctly.

4. Do not use force since the components are easily damaged.

TOOLS REQUIRED:

5. Combined stripping pin and key tool.

NORMAL STRIPPING:

NOTE:
Components that are numbered with the serial number i.e. barrel, bolt and dust cover are not interchangeable.

6. Remove magazine by holding weapon in one hand and grasping magazine with four fingers of the other hand wrapped around front side of magazine, pressing the magazine catch with the thumb, while at the same time pulling the magazine in a forward and downward movement. See Fig. A.5.1

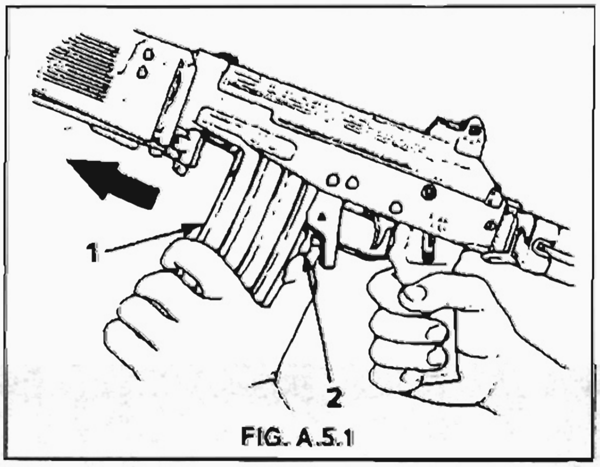


FIG. A.5.1

REMOVAL OF MAGAZINE

1. Magazine.
2. Magazine Catch.

7. Press cover catch inward with right thumb, with left hand, tilt cover assembly to the right and remove it from the rifle. See Fig's. A.5.2 and A.5.3.

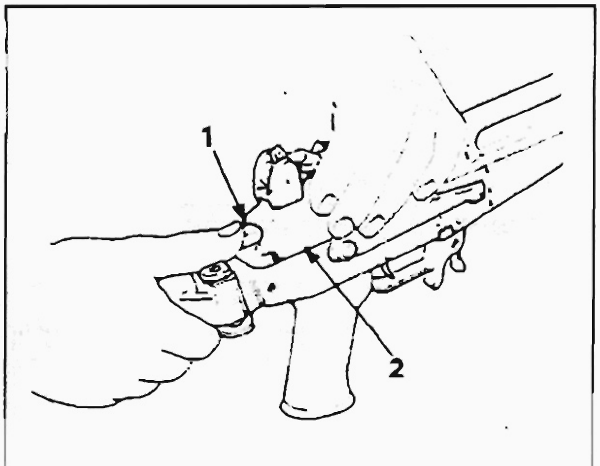


FIG. A.5.2

REMOVAL OF DUST COVER, PRESSING COVER CATCH

1. Cover Catch.
2. Dust Cover.

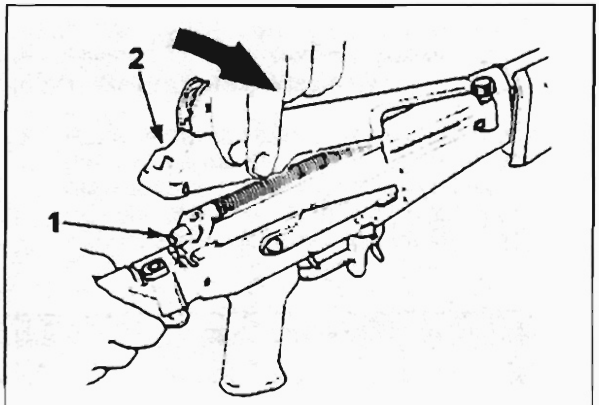


FIG. A.5.3

REMOVAL OF DUST COVER

1. Cover Catch.
2. Dust Cover.

8. Push return spring assembly inwards until clear of slots in receiver, lift and withdraw spring assembly from bolt carrier. See Fig's A.5.4 and A.5.5.

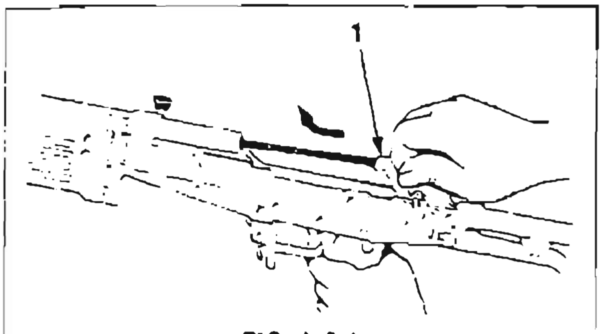


FIG. A.5.4

REMOVAL OF RETURN SPRING ASSEMBLY

1. Return Spring Assembly.

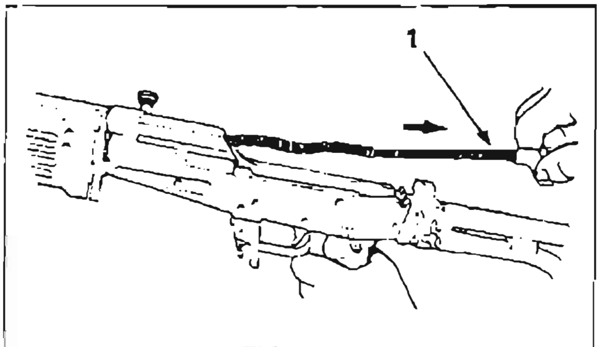


FIG. A.5.5

REMOVAL OF RETURN SPRING ASSEMBLY

1. Return Spring Assembly.

9. Remove the bolt carrier assembly by grasping the cocking handle and pulling the assembly rearwards, to the full extent of its travel. Turn the rear end of the carrier assembly to the left and withdraw the bolt carrier assembly. See Fig. A.5.6.

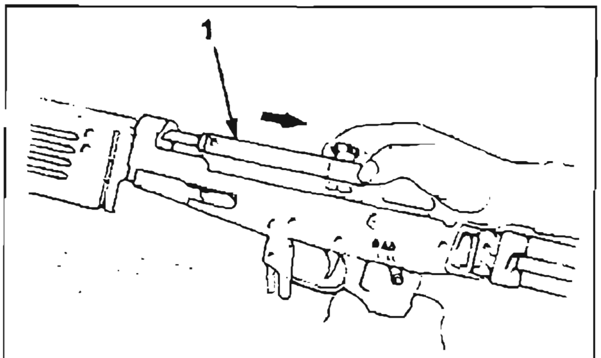


FIG. A.5.6

REMOVAL OF BOLT CARRIER

1. Bolt Carrier Assembly.

10. Separate bolt from bolt carrier by pulling it to the unlocked position. Turn anti-clockwise, as seen from bolt face. Remove by pulling towards piston. See Fig. A.5.7.

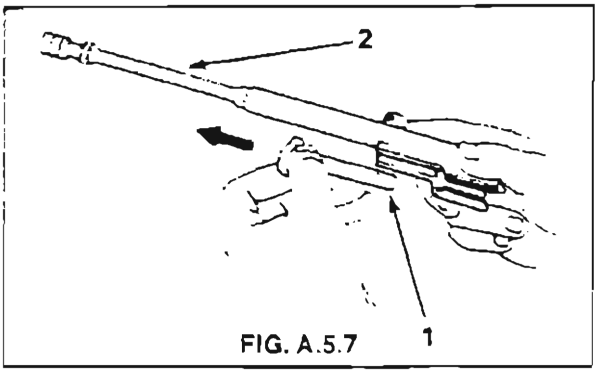


FIG. A.5.7

REMOVAL OF BOLT FROM BOLT CARRIER

1. Bolt Assembly.
2. Carrier Assembly, Bolt.

11. Remove piston guide tube by sliding it rearwards out of the slotted section of receiver. See Fig. A.5.8.

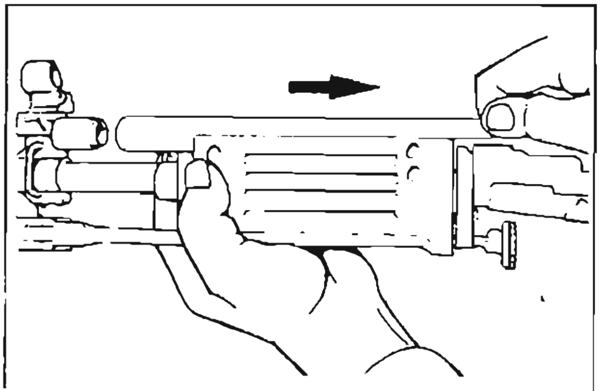


FIG. A.5.8

REMOVAL OF PISTON GUIDE TUBE

1. Piston Guide Tube.

12. Disengage and lower bipod from under handguard assembly. Unlock handguard front holder by moving locking pin on front holder through 180° and slide front holder forward. Remove handguard assembly by lowering it from barrel. See Fig's. A.5.9 and A.5.10.

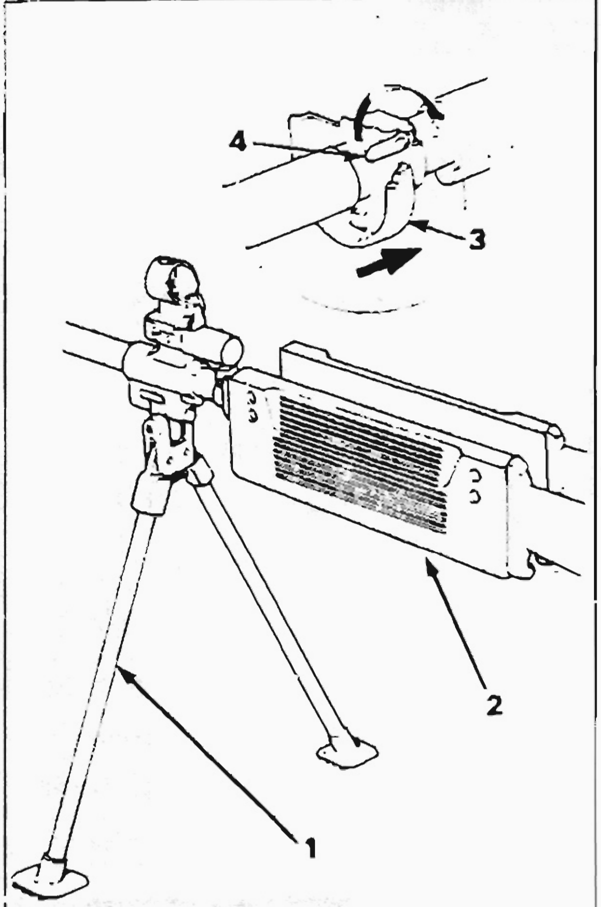


FIG. A.5.9

UNLOCKING HANDGUARD FRONT HOLDER

1. Bipod.
2. Handguard Assembly.
3. Handguard Front Holder.
4. Locking Pin.

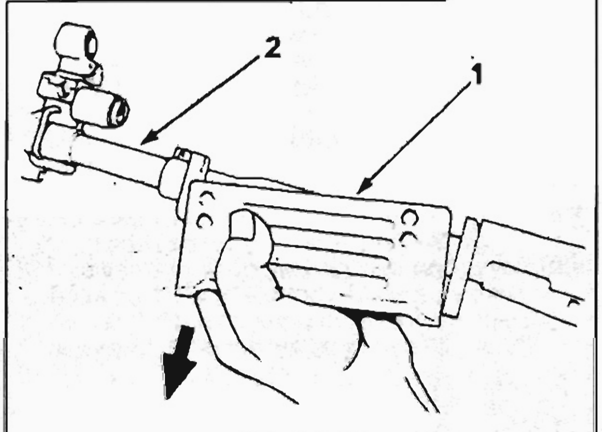


FIG. A.5.10

REMOVAL OF HANDGUARD

1. Handguard Assembly.
2. Barrel.

13. Move the handguard holder towards the front of the weapon and lower it from the barrel. Fig. A.5.11.

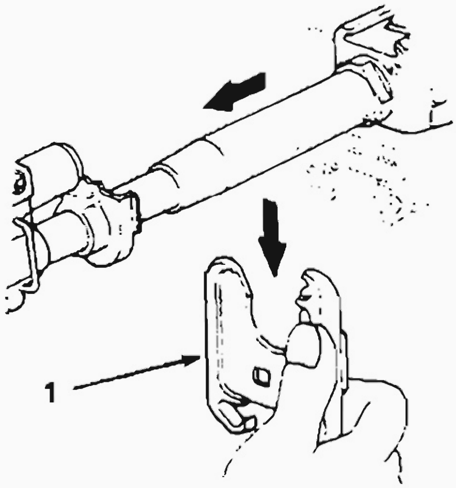


FIG. A.5.11

REMOVAL OF HANDGUARD HOLDER

1. Handguard Holder.

ASSEMBLING:

14. Assemble the weapon in the reverse order of stripping unless otherwise specified.

NOTES ON ASSEMBLING:

ASSEMBLING THE BOLT CARRIER ASSEMBLY

15. Hold bolt carrier with the cocking handle resting in the palm of the right hand. Install the bolt inside the bolt carrier, pull forward and at the same time execute half a turn until the bolt locks in the bolt carrier. Tilt assembly 1/4 - turn anti-clockwise so that cocking handle is horizontally situated and pointing left. Install bolt carrier assembly into receiver by directing the piston towards the piston guide tube and rear end towards its groove in the receiver.

ASSEMBLING THE RETURN SPRING ASSEMBLY:

16. Hold return spring with the right hand, insert it's front end into the opening of the sliding mechanism. Then push it's rear end beyond the housing in the rifle's body. Make sure that the rear end of the spring is located in the rifle's body and not in the housing. See Fig. A.5.12.

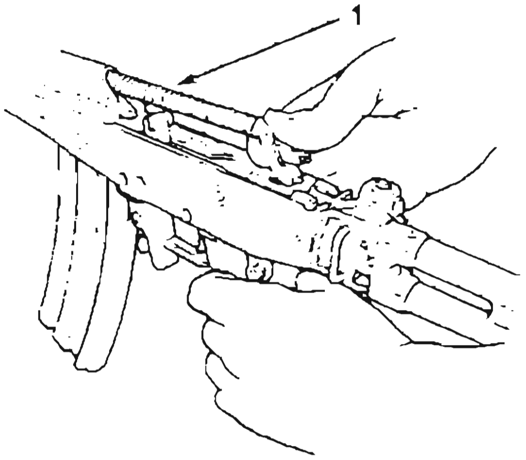


FIG. A.5.12

ASSEMBLING RETURN SPRING ASSEMBLY

1. Return Spring Assembly.

ASSEMBLING THE COVER:

17. Hold cover with right hand. fit cover's front end to the piston guide tube's rear end and cover's rear end to the rifle's receiver. You should be able to see the return spring guide located in the body through the cover opening. Cock the rifle and make sure that the return spring catch is engaged and is now located in the cover opening. See Fig. A.5.13.

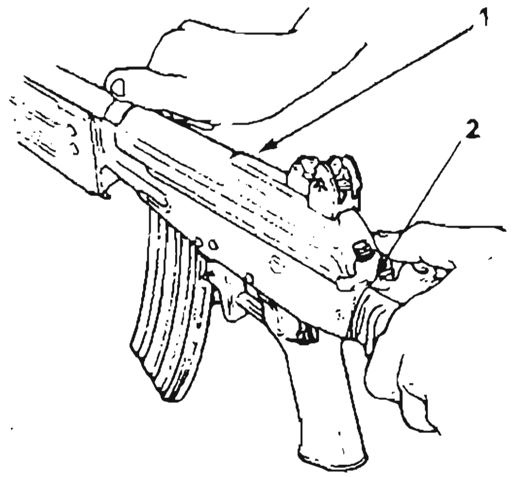


FIG. A.5.13

ASSEMBLING DUST COVER

1. Cover, Dust.
2. Spring, Return Guide.

SUB-SECTION A.6

DEFINITIONS

INTRODUCTION:

1. Because weapon terminology varies, definitions are included to explain the meaning of terms used in this Workshop Repair Manual.

DEFINITIONS

INSPECTION:

2. A visual inspection not involving the use of gauges to ensure that the weapon is maintained in good condition and that the necessary repairs, adjustments and authorised modifications have been carried out.

EXAMINATION:

3. Ascertaining in detail the condition and state of wear of the weapon by thorough examination of the various parts by the using of all the appropriate gauges, and carrying out accuracy and functioning tests where necessary to determine the serviceability of the weapon.

REPAIR:

4. The process of rectifying damage, wear or maladjustment, restores equipment to a serviceable condition and may be done by:

   a. Replacing damaged or deteriorated components by serviceable ones.

   b. Making unserviceable equipment serviceable by the use of suitable tools and materials, welding, straightening, etc.

   c. Adjustments.

ZEROING:

5. The process of adjusting the sight relative to the weapon by firing, so that the line of sight and the point of impact coincide at the range selected.

PITTING:

6. Pitting is the result of a barrel not being properly cleaned and preserved after firing. The chemical action of the deposits left by the propellent, together with the moisture in the air, causes oxidization which forms pit marks. In the initial stages pitting has the appearance of small dull spots on the bright surface of the bore. Slight pitting can be removed by polishing. However, polishing is undesirable as it considerably reduces barrel life. Pitting is not considered serious until progressed to such an extent that accuracy and muzzle velocity is affected.

MODIFICATION:

7. A process of rectifying weakness in design or manufacture and also of alteration or addition, in order to improve the reliability or operational effectiveness of a weapon/equipment or to facilitate servicing, repair or production.

PUCKERING:

8. Puckering is the reduction of the calibre and is normally found at the muzzle. It appears as a bright ring in the bore due to the projectile moving through the reduced portion.

EROSIVE SCORING:

9. It is initiated by the imperfect sealing of the bore by the projectile when the weapon is fired. The hot propellent gases, under high pressure, escape between the projectile and the bore. Defects in the steel, or tool marks of erosive scoring. Once started, scoring develops at an increasing rate and in this respect differs from erosive wear. The first appearance of scoring is slight longitudinal; streaks at the commencement of rifling. These streaks develop in depth and tend to form irregular guttering and holes. Scoring is very irregular and may effect one or more grooves.

EROSIVE WEAR:

10. It is the smooth wearing away of the rifling due to the very high temperature of the propellent gases. The action is, however, greater on the lands than in the grooves. In the early stages the lands become rounded and the grooves appear shallow. The maximum wear occurs at the commencement of rifling. Wear is not uniform and can be greater on either the horizontal or vertical dimension.

SUB-SECTION A.7

GENERAL INSTRUCTIONS FOR MAINTENANCE AND REPAIRS

INTRODUCTION:

1. The maintenance and repair of the R4 Assault Rifle consists largely of the replacement of worn or broken parts.

2. When parts or assemblies, or parts of assemblies, are broken or worn so as to render them unserviceable, they must be replaced. When only parts of assemblies are worn replace the complete assembly if the time taken to replace the parts of the assembly would cost more than the cost of the assembly itself.

3. Maintenance and repair as covered in this manual will be for the weapon in general with exceptions noted where necessary. Typical operations in the repair of assemblies and weapon are described in the various sections and sub-sections.

TOOLS FOR MAINTENANCE AND REPAIR:

4. The general tools needed for maintenance and repair are listed in the Illustrated Parts Catalogue. Tools of a special nature are listed in the various sections or sub-sections and summarised in Section Z, and are carried by the workshop.

GENERAL INSTRUCTIONS FOR REPAIR:

5. When assembling a unit, replace taper pins and cotter pins with new ones if available. If screw or nuts are damaged, they should be replaced.

6. All springs should be replaced if distorted, cracked, kinked, fail to function properly of if not according to specification.

7. If a new part is not available, reconditioning of the old part is necessary. Such parts should be examined carefully after reconditioning, to determine serviceability.

REMOVAL OF BURRS FROM THREADS, SCREW HEADS AND WORKING SURFACES:

8. During the life span of the rifle, polishing and stoning are necessary to relieve friction and to remove burrs caused by firing. Burrs on screw heads, threads and like surfaces should be removed with a fine file. Burrs on working surfaces such as the grooves on the bolt, bolt carrier assembly, sear, firing pin point and any roughness of working parts should be removed with a fine honing stone.

   NOTE:
   Care should be taken to stone and file evenly and lightly and not to remove more metal than is absolutely necessary and to maintain correct contour of the surface worked on. Parts or assemblies should never be altered in any way that would affect interchangeability or the parts.

REPAIR OF DAMAGED MACHINED AND POLISHED SURFACES:

9. Rough spots, scores, burrs and gauges will be smoothed so that the part will efficiently perform its normal function. The finish of the repaired part will approximate that of the original finish. In performing any of the above operations, critical dimensions will not be altered.

REPAIRING DAMAGED THREADS:

10. Damaged threads should be repaired by the use of a thread restorer or by chasing on a lathe.

RIVETING:

11. When parts require re-riveting, drill out the head and then drive out rivet. Do not drill through rivet hole.

TESTING FOR LOOSE RIVETS:

12. To determine the extent of loose rivets, try to insert a 0,025 mm feeler gauge between the riveted components. The feeler gauge must go between the riveted components for their entire length before the rivets are loose enough to classify the component unserviceable. Entrance of the feeler gauge at one point only is not cause for rejection.

SURFACE FINISH:

13. The surface of the weapon is to be determined according to the line of repair, i.e. 1st to 4th line repair, and to the facilities available to an applicable workshop. A guide to the finish of the surface is as follows:

1ST LINE REPAIR:

a. Painted surfaces will be carefully inspected for presence of rust under the paint and if detected, the surface will be derusted and repainted. Chemically blackened and phosphated surfaces are not acceptable when the worn surface is objectionable from the standpoint of visibility when it is capable of reflecting light. In this case the weapon is to be transferred to 2nd line.

2ND LINE REPAIR:

b. Sub-paragraph a. is applicable to determine surface finish. If surfaces are not according to the norm, the components are to be chemically blackened or treated with dry-film lubricant. Where no facilities are available at the workshop, the weapon is to be transferred to 4th line.

4TH LINE REPAIR:

c. When weapons are undergoing base repair, all surfaces are to be treated with dry-film lubricant.

NOTE:
When applying the dry-film lubricant process, ensure to mask all chrome surfaces, plug barrel bore and chamber and protect threads during grit blasting. No springs are to be treated with either process.

SECTION B

BARREL GROUP

SECTION CONTENTS LIST

SECTION B

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SUB-SECTION B.1

CHAPTER 1

BRIEF DESCRIPTION

INTRODUCTION:

1. The barrel is secured to the receiver by means of a tight fitting screw thread. This allows efficient heat transfer from the barrel to the receiver because during rapid prolonged firing of the weapon the temperature of the barrel and chamber zone can reach between 500°C-600°C. The gas block, which is fitted near the front end of the barrel, is a press fit onto the barrel and is secured by two spring pins. The bipod and front sight assemblies are both attached to the gas block. The front holder for the handguard is fitted around the barrel and cannot be removed unless the flash hider and gas block are removed first.

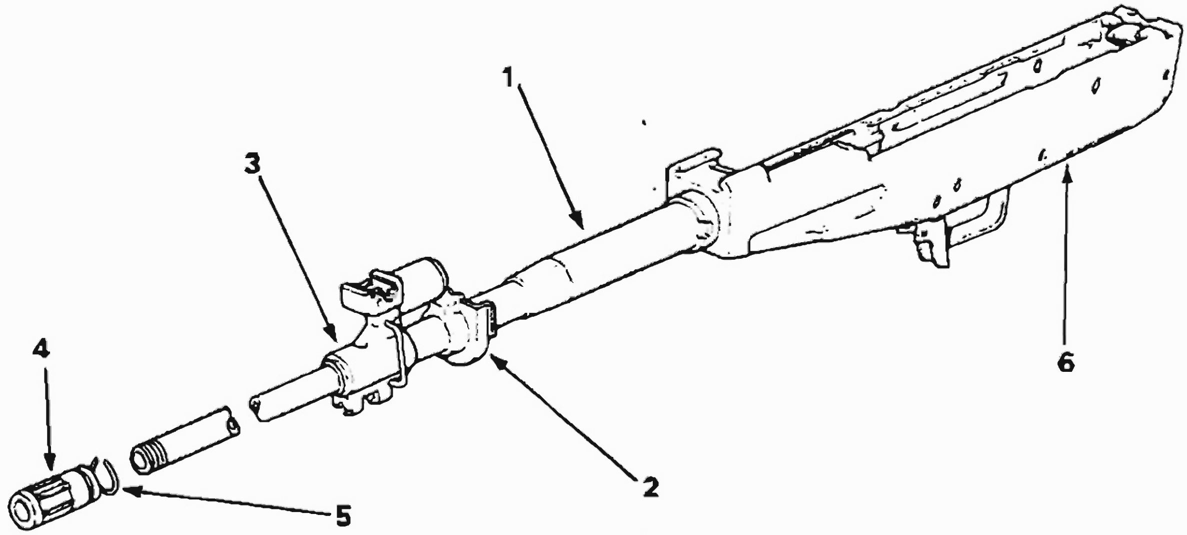


FIG. B.1.1

BARREL ASSEMBLY

1. Barrel.
2. Holder, Front, Handguard.
3. Block, Gas.
4. Hider, Flash.
5. Ring, Retaining.
6. Receiver.

2. If the barrel, gas block, handguard front holder or receiver is rejected for any reason, the weapon must be returned to the manufacturer for repair, thereof.

3. The barrel assembly consists of the following components, as illustrated in Fig. B.1.1

SUB-SECTION B.1

FAULT FINDING, DIAGNOSTIC AND CORRECTIVE PROCEDURE

INTRODUCTION:

WARNING:
Before starting with fault finding, be sure to clear the weapon. Do not actuate the trigger until the weapon has ben cleared. Inspect the chamber to ensure that it is empty and check that no ammunition is in a position to be introduced.

SERIAL	FAULT	REMEDY
1	Bent barrel	5th Line repair
2	Corroded or pitted barrel	Clean, gauge and if rejected, 5th Line repair
3	Worn barrel	5th Line repair
4	Bulged barrel	5th Line repair
5	Erosion at commencement of rifling	Clean, gauge and if rejected, 5th Line repair
6	Damaged threads	Repair
7	Ruptured cartridge case	Remove
8	Puckering	Clean, gauge and if rejected, 5th Line repair
9	Damaged handguard front holder	5th Line repair
10	Damaged gas block	5th Line repair
11	Damaged flash hider	Repair or replace
12	Damaged retainer spring (flash hider)	Replace

SUB-SECTION B.1

CHAPTER 3

STRIPPING AND ASSEMBLING PROCEDURE

INTRODUCTION:

WARNING:
Before starting with the stripping procedure, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty and check that no ammunition is in a position to be introduced.

STRIPPING:

1. Unscrew flash hider from barrel. See Fig. B.1.2.

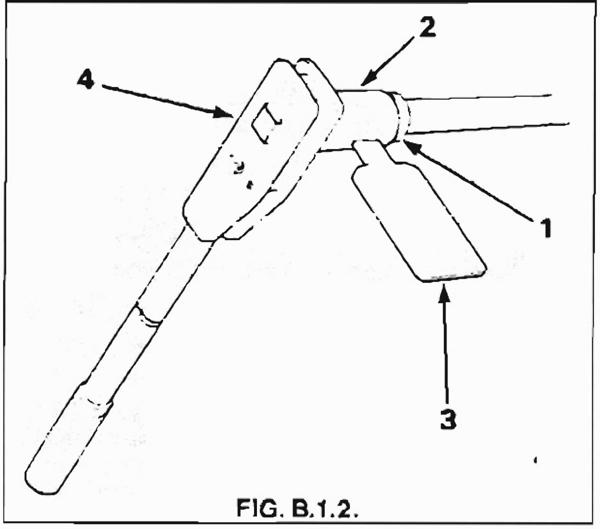


FIG. B.1.2.

REMOVAL OF FLASH HIDER FROM BARREL

1. Hider, Flash.
2. Socket, Flash Hider.
3. Key, Socket, Flash Hider.
4. Torque wrench.

2. If it is necessary to remove the retaining spring from the flash hider, carefully file away the indentation around the spring ends in the recess. See Fig. B.1.3.

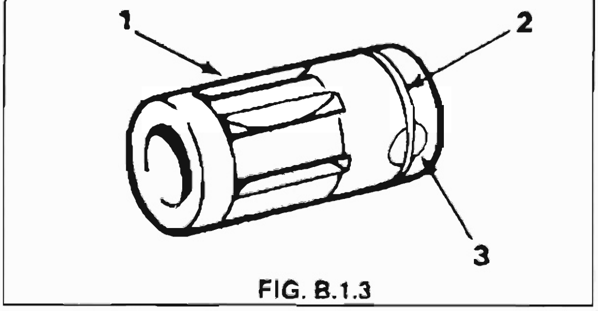


FIG. B.1.3

REMOVAL OF RETAINER SPRING

1. Hider. Flash.
2. Retaining. Spring.
3. Indentation.

3. Use a small screwdriver or similar implement prise the spring out of the flash hider recess. See Fig. B 1.4.

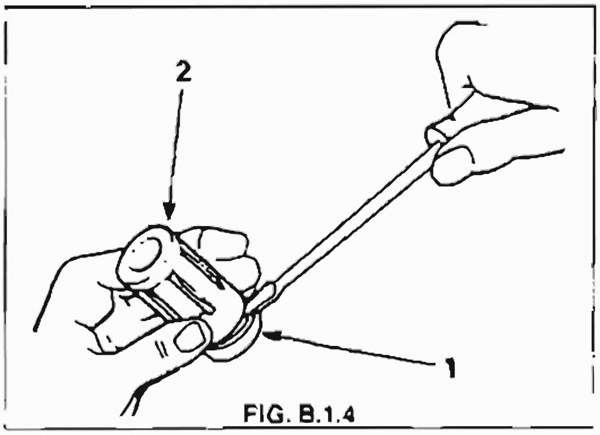


FIG. B.1.4

REMOVAL OF RETAINER SPRING

1. Retaining. Spring.
2. Hider. Flash.

ASSEMBLING:

4. Assemble in the reverse order of stripping.

NOTES OF ASSEMBLING:

1. When refitting flash hider to barrel, tighten to a torque of 35 – 38 Nm. (26 – 28 lb. ft)
2. When refitting retaining spring to flash hider, centre-punch the side of the spring recess walls where the spring ends lie, in order to retain the spring in position and to ensure that the spring ends do not stand proud of the flash hider surface. After centre punching retaining spring, surfaces that are filed must be blackened. (Use 3mm pin punch). Fig. B.1.5.

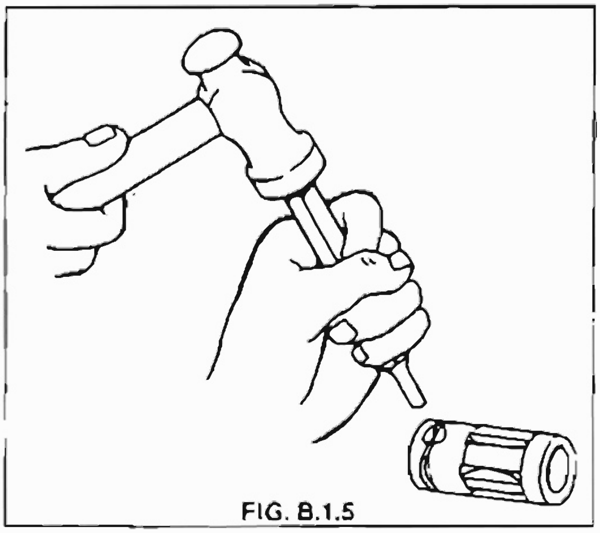


FIG. B.1.5

SECURING RETAINER SPRING ENDS

1. Hider. Flash.
2. Retaining. Spring.
3. 3mm Centre Punch.

CHAPTER 4

INSPECTION PROCEDURE

INTRODUCTION:

WARNING:
Before starting an inspection, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty and check that no ammunition is in a position to be introduced.

INSPECTION OF BARREL:

1. Hold the barrel so that the bore is illuminated, and inspect from both ends, where possible. If the barrel is not bent or otherwise deformed, or if the bore appears free from buldges, excessive scratches, cuts cracks and large pit marks, and if lands are sharp and uniformly distinct, it is serviceable, providing it is in good condition otherwise.

2. If the barrel bore is pitted to the extent that the sharpness of the lands or grooves are large enough to permit the passage of gas past the projectile, i.e. pitting the width of a land or groove which is larger than 10 mm, the barrel is or will be too inaccurate for serviceability and must be replaced.

3. Scratches or cuts inside the bore large enough to permit passage of gas past the projectile must be replaced.

4. Where a pucker is determined in the bore and the minimum bore gauge Ø = 5.573 mm passes through the bore, it is serviceable.

5. Ensure that rifling grooves are still visible inside the barrel bore. If the rifling grooves have disappeared due to excessive wear, reject the barrel.

6. Ensure that the barrel exterior is free from nicks, burrs and scratches.

GAUGES OF BARREL:

7. Each barrel inspected and found serviceable by visual inspection will be bore-gauged, using gauges as listed.

   NOTE:
   Prior to carrying out gauge checks, clean the bore thoroughly using a wire brush if necessary, and then with a dry flannelette.

8. A barrel is serviceable if the bore gauge Ø 5.573 mm passes freely through barrel bore (gauge assembled to handle), when inserted from chamber end, with barrel held vertical. See Fig. B.1.6.

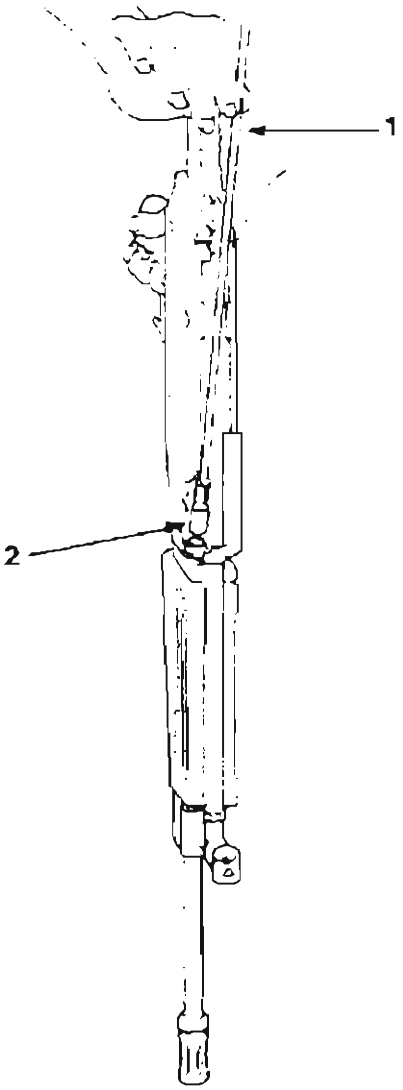


FIG. B.1.6

BARREL BORE CHECK

1. Handle. Gauge.
2. Gauge. Bore.

UNSERVICEABILITY OF BARREL:

9. A barrel is unserviceable if the bore gauge of Ø 5,687 mm passes through the barrel bore. See Fig. B.1.7.

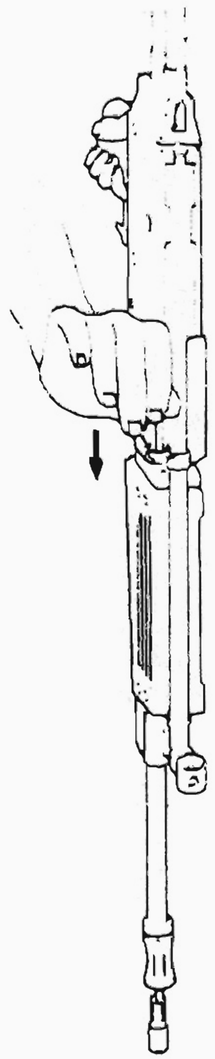


FIG. B.1.7

BARREL BORE CHECK (CONT)

10. The barrel straightness check can be carried out by inserting the straightness Φ 5.533 mm gauge from either end of the barrel. The barrel must be in a vertical position and the gauge must pass through the barrel under its own weight. If the gauge is inserted at the chamber end, the muzzle end of the barrel must be positioned over a piece of wood or soft material to prevent the gauge from being damaged on its exit from the barrel. See Fig. B.1-8.

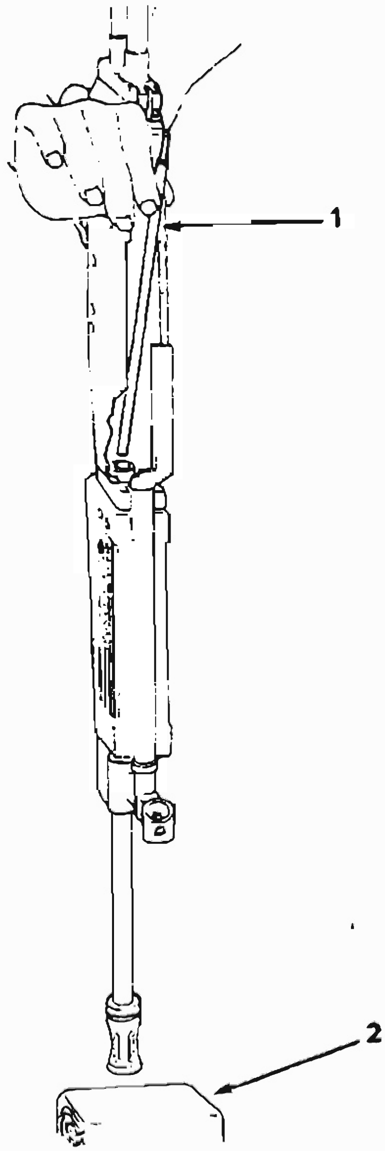


FIG B.1.8

BARREL STRAIGHTNESS CHECK

1. Gauge, Barrel Straightness
2. Wood or soft material.

NOTES ON GAUGING

1. Never attempt to check or gauge a warm barrel.

2. Ensure that gauges are not dropped on hard surfaces.

3. Bore and straightness gauges should periodically be checked with a micrometer for correct diameter and straightness gauges, for straightness. Unserviceable gauges must be replaced.

INSPECTION OF GAS BLOCK:

11. Ensure that the gas block is free from cracks and distortion.

12. Ensure that all gas passages are clean.

13. Check webbing attachment point for security.

14. Check for burrs particularly on dovetail grooves for front sight base.

15. Ensure that threads in front sight adjusting screw holes are serviceable.

16. Ensure that gas block is securely fitted to barrel.

INSPECTION OF HANDGUARD FRONT HOLDER:

17. Ensure that the locking handle is secure and able to pivot through 180°.

18. Check for signs of damage and deformation.

INSPECTION OF FLASH HIDER:

19. Ensure that flash hider threads are not damaged.

20. Ensure that grooves are free from burrs and cracks.

21. Ensure that retainer spring is securely fitted in its groove and is staked.

SUB-SECTION B.1

CHAPTER 5

REPAIR PROCEDURE

INTRODUCTION:

WARNING:
Before starting any repairs, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty and check that no ammunition is in a position to be introduced.

REPAIR

BARREL:

1. All bent barrels and barrels with bulges will be replaced by the manufacturer. Worn and corroded barrels will be examined and replaced if necessary by the manufacturer.

GAS BLOCK:

2. Repairs to gas block are to be carried out by the manufacturer as it is a non stock item.

3. If ends of the webbing attachment points are not secure to the gas block, repair by brazing.

HANDGUARD FRONT HOLDER:

4. Repairs to handguard front holder are to be carried out by the manufacturer as it is a non stock item. Fig. B.1.9.

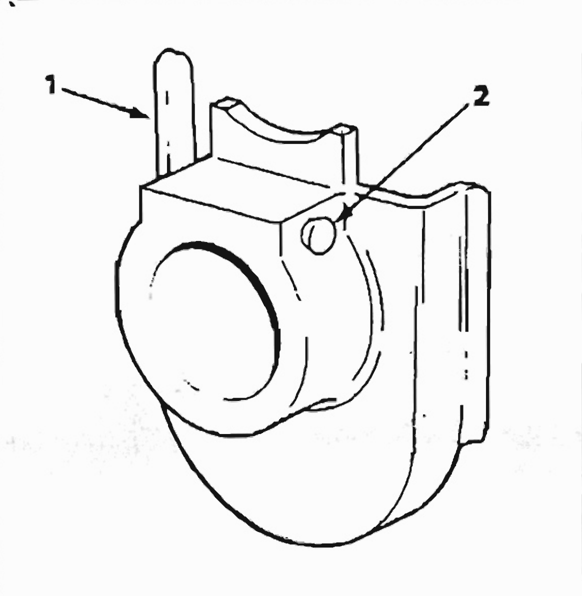
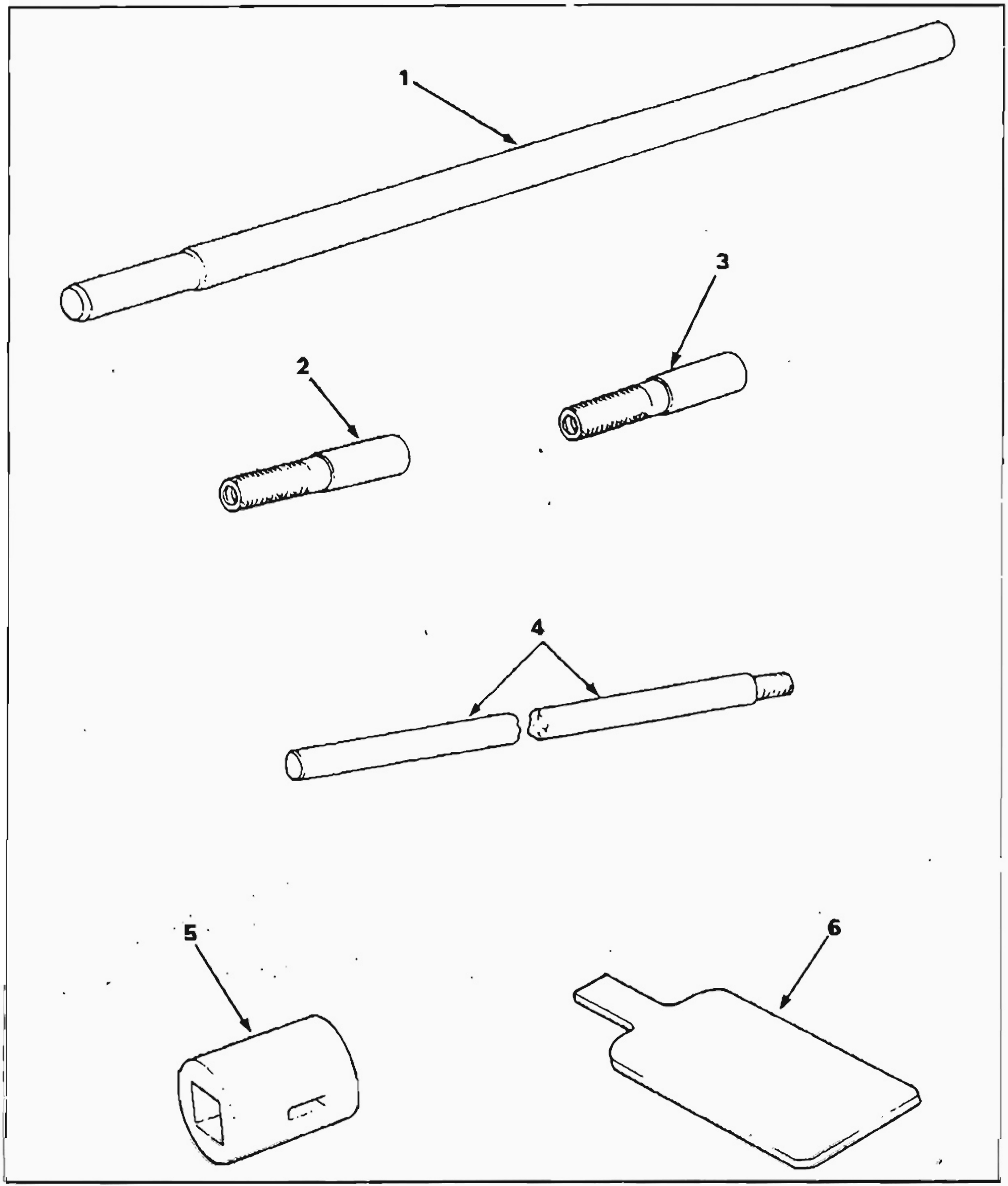


FIG. B. 1.9.

HANDGUARD FRONT HOLDER

1. Handle, Locking.
2. Shaft (with belled end).



CHAPTER 6

SPECIAL WORKSHOP TOOLS

ITEM	TOOL NO.	DESCRIPTION	REPAIR LINE 1	 2	 4
1	356/06500/5000/▽/02	Gauge, Straightness of Barrel (5.533 mm)	X	X	X
2	356/06507/5000/▽/08	Gauge No. Go, Barrel Bore (5.687 mm)	X	X	X
3	356/06508/5000/▽/01	Gauge, Go, Barrel Bore (5.573 mm)	X	X	X
4	356/06509/5000/▽/05	Handle, Gauge	X	X	X
5	356/06512/5000/▽/02	Socket, Flash Hider	X	X	X
6	356/06513/5000/▽/06	Key, Socket, Flash Hider	X	X	X

SUB-SECTION B.2

CHAPTER 1

BRIEF DESCRIPTION

INTRODUCTION:

1. The handguard assembly provides an area for hand contact on the forward section of the weapon to enable control of the weapon to be maintained. The assembly also provides protection for the hand from the heat of the barrel during prolonged firing. The guard which provide the insulation between the barrel and the hand, are manufactured either from a man made fibre or from wood. The two types are interchangeable. See Fig. B.2.1

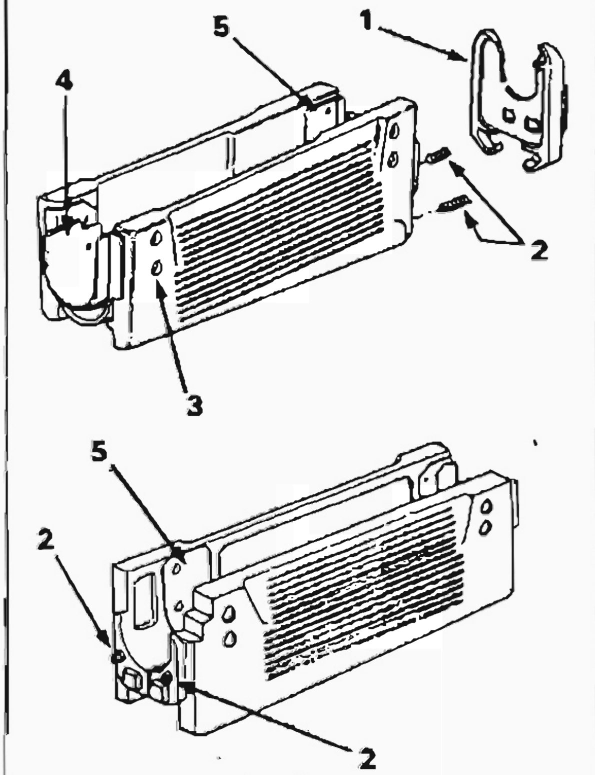


FIG. B.2.1

HANDGUARD ASSEMBLY

1. Holder, Handguard.
2. Spring.
3. Rivet.
4. Joint Assembly, Front.
5. Joint, Rear.

SUB-SECTION B.2

CHAPTER 2

FAULT FINDING, DIAGNOSTIC AND CORRECTIVE PROCEDURE

WARNING:
Before starting with fault finding, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty, and check that no ammunition is in position to be introduced.

SERIAL	FAULT	REMEDY
1	Cracked joints	Replace assembly
2	Bent joints	Straighten or replace assembly
3	Cracked handguard	Replace assembly
4	Deformed handguard	Replace if function impaired
5	Loose rivets	Replace
6	Broken spring	Replace
7	Damaged handguard holder	Replace

SUB-SECTION B.2

CHAPTER 3

STRIPPING AND ASSEMBLY PROCEDURE

INTRODUCTION:

WARNING:
Before starting the stripping procedure, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty and check that no ammunition is in a position to be introduced.

STRIPPING:

1. Remove cover, return spring assembly, breech mechanism group, piston guide tube and handguard assembly from weapon. Remove handguard holder from barrel.

2. Remove the springs from the handguard. See Fig. B. 2.2.

   NOTE:
   As the handguard is a riveted assembly no further stripping, except for repair work, is necessary.

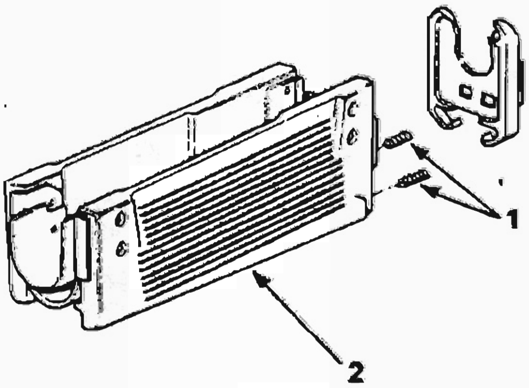


FIG. B.2.2

REMOVE SPRINGS FROM HANDGUARD

1. Spring.
2. Handguard Assembly.

ASSEMBLING:

3. Assemble in the reverse order of stripping.

SUB-SECTION B.2

CHAPTER 4

INSPECTION PROCEDURE

INTRODUCTION:

WARNING:
Before starting an inspection, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty, and check that no ammunition is in position to be introduced.

1. Inspection of the weapon is of the utmost importance. Thorough, systematic inspection at regular intervals is the best insurance against an unexpected breakdown at the critical moment when maximum performance is desired.

2. Inspection is for the purpose of determing the condition of the weapon, whether repairs are required, and the remedies necessary to ensure serviceability and proper functioning. Its immediate aim is trouble-prevention, which includes:-

    a. Preventative maintenance.

    b. Discovering evidence of improper treatment received before delivery.

    c. Determining when replacement of parts are necessary due to normal wear or defects.

INSPECTION OF HANDGUARD:

3. Ensure that handguard is free from breaks, cracks and nicks.

4. Ensure that the locating studs at the rear end of the handguard sides are undamaged.

5. Ensure that the spot welds on the front joint assembly have not come apart.

6. Ensure that springs are free from kinks and distortion.

7. Ensure that handguard holder is free from sharp edges or burrs.

8. Ensure that hooks, retaining bipod legs of handguard holder are not cracked or damaged.

9. Ensure that rivets are not loose.

SUB-SECTION B.2

CHAPTER 5

REPAIR PROCEDURE

INTRODUCTION:

WARNING:
Before starting any repairs, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty and check that no ammunition is in a position to be introduced.

REPAIRING OF LOOSE RIVETS:

1. Using a 4,00 mm twist drill, remove the heads of loose rivets of handguard. Using a hammer and a suitable punch, remove loose rivets stems. When replacing rivets ensure that rivets are formed in accordance with detail "A" of Fig. B.2.3.

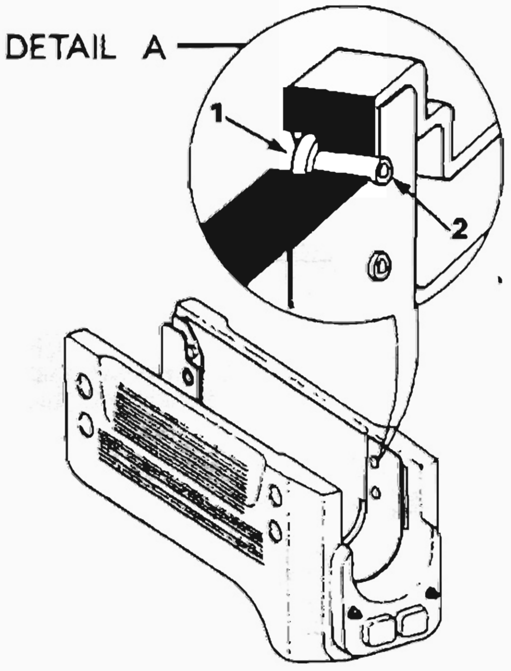


FIG. B.2.3.

FORMING OF RIVET TAILS

1. Head, Rivet.
2. Tail, Rivet.

2. If spot welds have separated, repair by further spot welding.

3. Blend out any damage to handguard, using a hand file.

SUB-SECTION B.3

CHAPTER 1

BRIEF DESCRIPTION

INTRODUCTION:

1. The pistol grip is situated directly behind the trigger and trigger guard and is secured to the receiver by means of screw and nut.

2. The grip handle group consists of the following components as illustrated in Fig. B.3.1.

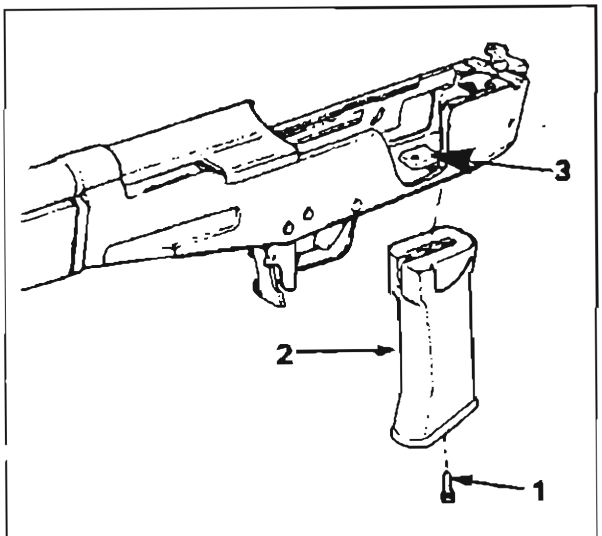


FIG. B.3.1.

HANDLE GRIP ASSEMBLY

1. Screw.
2. Grip, Handle.
3. Nut, Grip Handle.

SUB-SECTION B.3

CHAPTER 2

FAULT FINDING, DIAGNOSTIC AND CORRECTIVE PROCEDURE

WARNING:
Before starting with fault finding, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty, and check that no ammunition is in position to be introduced.

SERIAL	FAULT	REMEDY
1	Handle grip cracked	Replace
2	Damaged thread on screw or nut	Repair or replace

SUB-SECTION B.3

CHAPTER 3

STRIPPING AND ASSEMBLING PROCEDURE

INTRODUCTION:

WARNING:
Before starting the stripping procedure, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty and check that no ammunition is in a position to be introduced.

STRIPPING:

1. Remove cover, return spring assembly and breech mechanism group.

2. Unscrew screw located inside grip and remove grip from receiver. Remove nut from inside of receiver. See Fig. B.3.2.

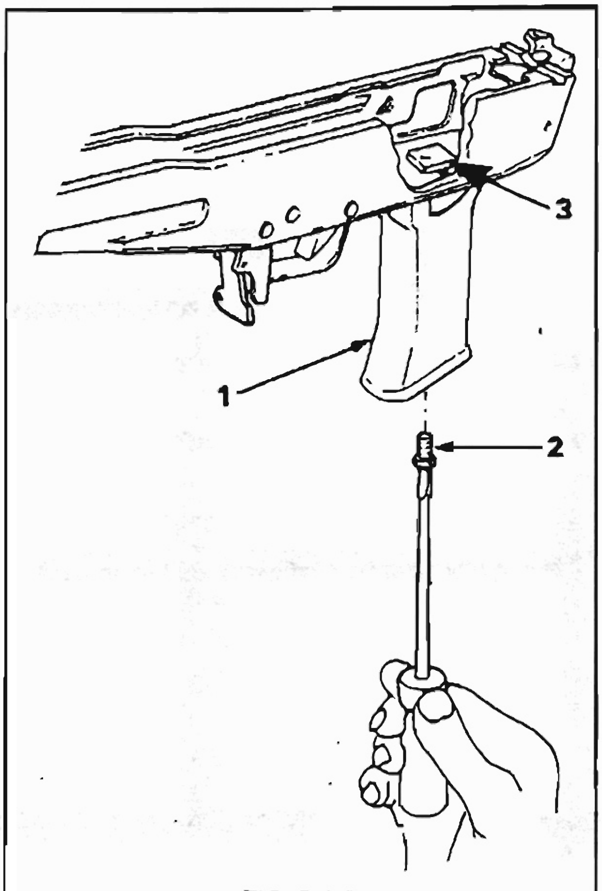


FIG. B.3.2

REMOVAL OF PISTOL GRIP

1. Grip Handle.
2. Screw
3. Special Nut.

ASSEMBLING:

3. Assemble in reverse order of stripping.

SUB-SECTION B.3

CHAPTER 4

INSPECTION PROCEDURE

INTRODUCTION:

WARNING:
Before starting an inspection, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty, and check that no ammunition is in a position to be introduced.

1. Inspection of the weapon is of the utmost importance. Thorough, systematic inspection at regular intervals is the best insurance against an unexpected breakdown at the critical moment when maximum performace is desired.

2. Inspection is for the purpose of determining the condition of the weapon, whether repairs are required, and the remedies necessary to ensure serviceability and proper functioning. Its immediate aim is trouble prevention, which includes:

    a. Preventative maintenance.

    b. Discovering evidence of improper treatment received before delivery.

    c. Determining when replacement of parts are necessary due to normal wear or defects.

INSPECTION OF HANDLE GRIP:

3. Ensure that threads on the screw and nut are not damaged.

4. Ensure that the handle grip is free from burrs and nicks.

5. Ensure that grip handle is not cracked.

6. Ensure that the screw hole in the handle grip is free from obstruction.

SECTION C

RECEIVER GROUP

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SECTION C

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SUB-SECTION C.1

CHAPTER 1

BRIEF DESCRIPTION

INTRODUCTION:

1. The receiver assembly contains the barrel, butt and trigger mechanism group. A cover, which incorporates the rear sight assembly, fits over the top opening of the receiver and prevents the ingress of dust, dirt etc., and thereby protects the working parts within the receiver. The trigger guard and magazine catch housing is rivetted to the receiver. The ejector is an integral part of the receiver, and the bullet lead platform is riveted to the received.

2. The receiver assembly consists of the following components as illustrated in Fig. C.1.1.

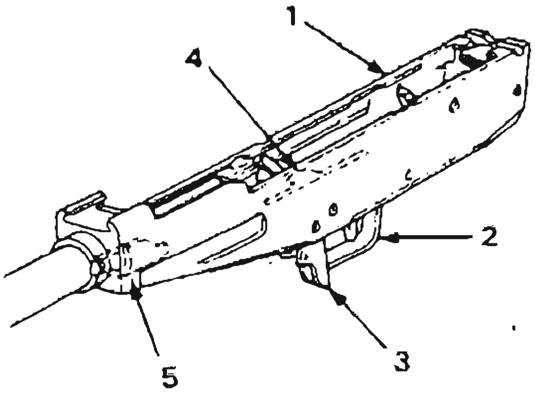

FIG. C.1.1

RECEIVER ASSEMBLY

1. Receiver.
2. Trigger Guard.
3. Magazine Catch Housing.
4. Ejector.
5. Bullet Lead.

SUB-SECTION C.1

CHAPTER 2

FAULT FINDING, DIAGNOSTIC AND CORRECTIVE PROCEDURE

INTRODUCTION:

WARNING:
Before starting with fault finding, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty, and check that no ammunition is in position to be introduced.

SERIAL	FAULT	REMEDY
1	Cracks, shearing or wear	5th Line repair
2	Twisting or bends	5th Line repair
3	Axis pin holes oval or worn	5th Line repair
4	Loose rivets on trigger guard	Replace rivets
5	Damaged or distorted trigger guard	Repair or replace
6	Weak or distorted spring	Replace
7	Cracked or distorted magazine catch	Replace
8	Cracked bullet lead platform	5th Line repair
9	Burrs	Remove by filing or stoning

SUB-SECTION C.1

CHAPTER 3

STRIPPING AND ASSEMBLING PROCEDURE

INTRODUCTION:

WARNING:
Before starting the stripping procedure, be sure to clear the weapon. Do not actuate the trigger until the weapon has been clear. Inspect the chamber to ensure that it is empty and check that no ammunition is in a position to be Introduced.

STRIPPING:

1. Remove cover, return spring assembly breech mechanism group, piston guide tube, trigger mechanism group and butt group.
2. Drill out one of the heads of the magazine catch axis pin with a 5,00mm twist drill. Drive out the remains of the axis pin and remove the catch and the spring. See Fig. C.1.2.

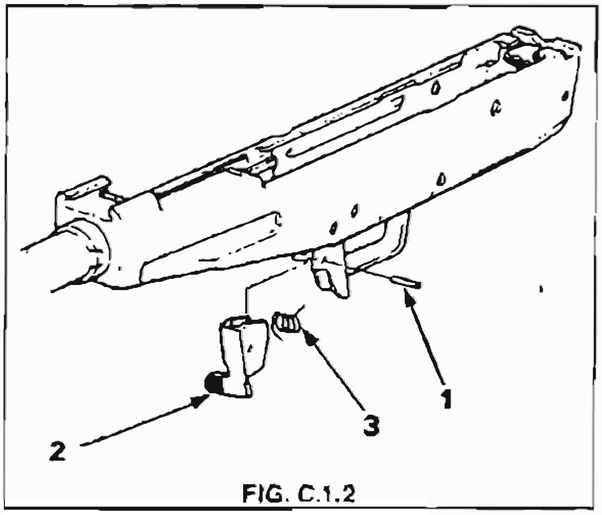

FIG. C.1.2

REMOVING MAGAZINE CATCH ASSEMBLY

1. Pin, Axis.
2. Catch.
3. Spring.

ASSEMBLING:

3. Assemble in the reverse order of stripping.
4. When replacing new axis pin, form both ends as shown, using a suitable punch and hammer. See Fig. C.1.3.

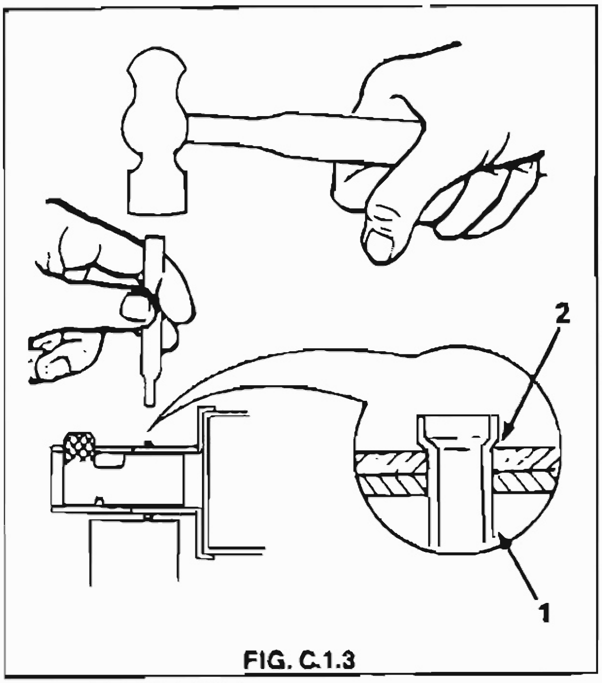

FIG. C.1.3

AXIS PIN FINISHING

1. Pin, Axis.
2. End Formed.

CHAPTER 4

INSPECTION PROCEDURE

INTRODUCTION:

WARNING:
Before starting an inspection, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty, and check that no ammunition is in a position to be introduced.

1. Inspection of the weapon is of the utmost importance. Thorough, systematic inspection at regular intervals is the best insurance against an unexpected breakdown at the critical moment when maximum performance is desired.

2. Inspection is for the purpose of determining the condition of the weapon, whether repairs are required, and the remedies necessary to ensure serviceability and proper functioning. Its immediate aim is trouble-prevention, which includes:

   a. Preventative maintenance.

   b. Discovering evidence of improper treatment received before delivery.

   c. Determining when replacement of parts are necessary due to normal wear or defects.

INSPECTION OF RECEIVER AND COMPONENTS:

3. Ensure that magazine catch is not cracked or distorted.

4. Ensure that the axis pin holes in the magazine catch and housing are free from burrs and not elongated.

5. Ensure that the spring is not broken and is free from kinks.

6. Ensure that receiver has no signs of cracks on guide rails especially above ejector, above and below barrel orifice, and in front of bolt turner on RH side of receiver. See Fig. C.1-4.

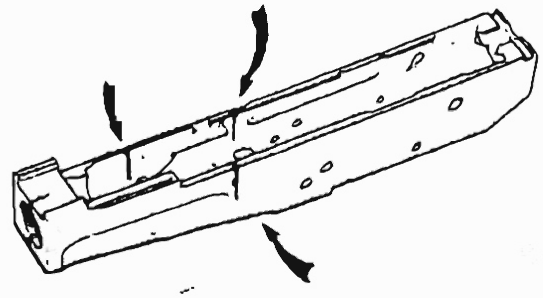

FIG. C.1.4

RECEIVER

SUB-SECTION C.1

CHAPTER 5

REPAIR PROCEDURE

INTRODUCTION:

WARNING:
Before starting an inspection, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty, and check that no ammunition is in a position to be introduced.

REPAIR:

1. Any repairs to be carried out on the receiver are to be referred to 5th line repair. Only repairs discussed in this manual are to be carried out by workshops.

SECTION D

BREECH MECHANISM GROUP

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CHAPTER 1

BRIEF DESCRIPTION

INTRODUCTION:

1. The bolt assembly is a sub-assembly of the bolt carrier assembly. Both the bolt and the bolt carrier travel together partway through the operation. The bolt assembly incorporates a spring loaded extractor which is retained in position by a pin. The extractor removes the spent cartridge from the barrel chamber during the ejection sequence.

2. The firing pin is retained within the bolt assembly by a pin. The rubber bush fitted to the rear of the firing pin, ensures that the firing pin fits snugly into the recess cut into the rear of the bolt. This prevents free movement of the firing pin within the bolt. A pin is fitted through a hole in the rear of the firing pin. This pin acts as a stop for the washer and rubber bush.

3. The bolt assembly consists of the following components, as illustrated in Fig. D.1.1

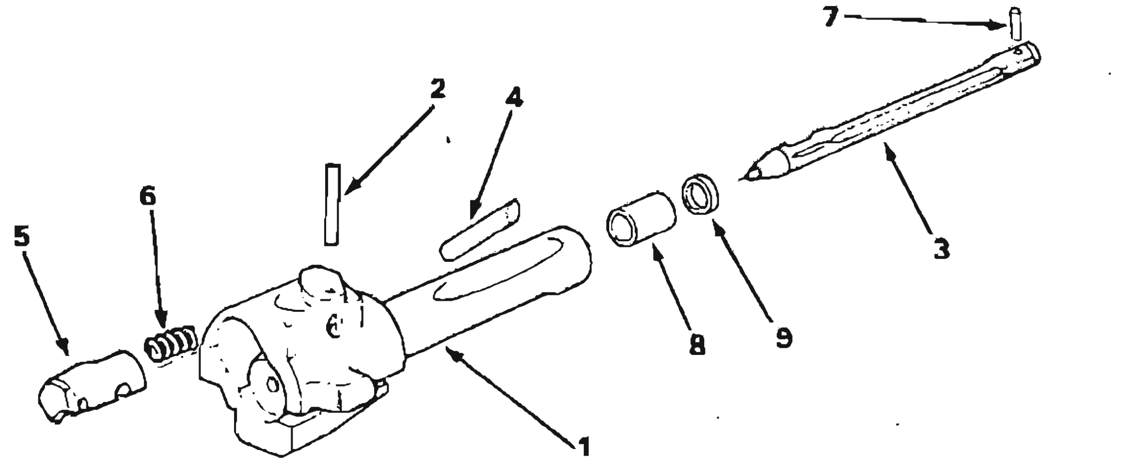


FIG. D.1.1

BOLT ASSEMBLY

1. Bolt.
2. Pin, Retaining, Firing Pin.
3. Pin, Firing.
4. Pin, Retaining, Extractor.
5. Extractor.
6. Spring, Extractor.
7. Pin, Retaining Bush.
8. Bush, Rubber.
9. Washer.

CHAPTER 2

FAULT FINDING, DIAGNOSTIC AND CORRECTIVE PROCEDURE

INTRODUCTION:

WARNING:
Before starting with fault finding, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty and check that no ammunition is in a position to be introduced.

SERIAL	FAULT	REMEDY
1	Cracks on bolt	Replace
2	Broken firing pin	Replace
3	Wear/cracks on extractor	Replace
4	Distorted weak or broken extractor spring	Replace
5	Wear on retaining pin	Replace
6	Wear on extractor pin	Replace
7	Damaged firing pin hole	Replace bolt
8	Damaged firing pin point	Repair or replace
9	Firing pin protrusion too short	Replace firing pin
10	Firing pin protrusion too long	Repair
11	Shearing or excessive damage to locking lugs on bolt	Replace bolt
12	Burrs	Remove by filing or stoning
13	Damaged or torn rubber bush	Replace
14	Damaged firing pin washer	Replace
15	Damaged or broken firing pin rear pin	Replace

CHAPTER 3

STRIPPING AND ASSEMBLING PROCEDURE

INTRODUCTION:

WARNING:
Before starting with the stripping procedure be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty and check that no ammunition is in a position to be introduced.

STRIPPING:

1. Remove cover, return spring assembly and breech mechanism group.

2. Remove bolt assembly from bolt carrier by moving bolt assembly towards the rear of bolt carrier assembly as far as it will go, and rotating it clockwise (when viewed from the rear), then sliding forward until clear. See Fig. D.1.2.

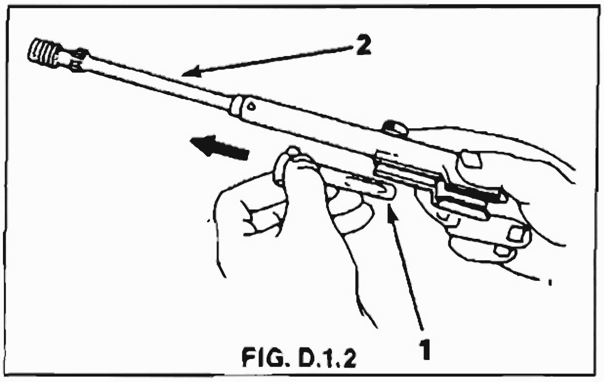


FIG. D.1.2

REMOVAL OF BOLT FROM BOLT CARRIER

1. Bolt Assembly.
2. Carrier Assembly, Bolt.

3. Grip the bolt assembly in a vice equipped with soft clamps. Using a suitable punch and a hammer drive out the firing pin retaining pin. See Fig. D.1.3.

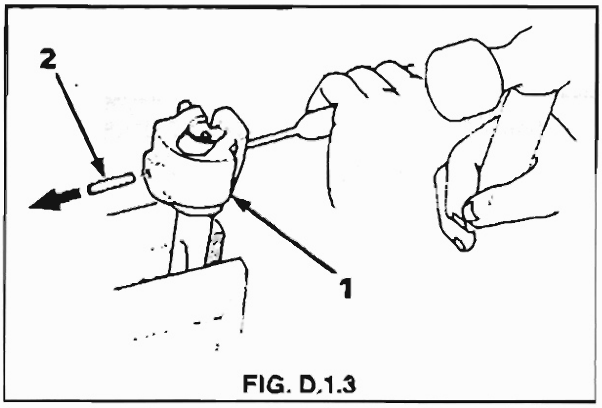


FIG. D.1.3

REMOVING FIRING PIN RETAINING PIN

1. Bolt Assembly.
2. Pin, Retaining, Firing Pin.

4. Remove the firing pin assembly from the bolt by pulling it out by hand. The rear end of the firing pin assembly will protrude from the rear of the bolt. It can be gripped with the fingertips and pulled out to the rear. See Fig. D.1.4.

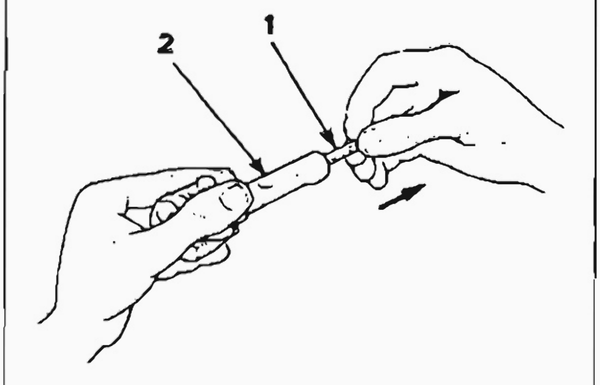


FIG. D.1.4

REMOVING THE FIRING PIN ASSEMBLY FROM BOLT

1. Firing Pin Assembly.
2. Bolt.

5. Removing the rubber bush and washer from the firing pin by pulling them out by hand in the direction of the firing pin point. See Fig. D.1.5.

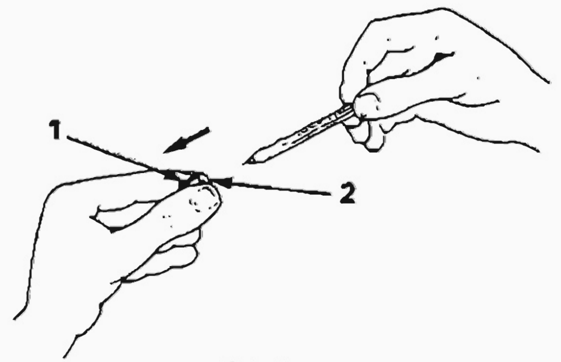


FIG. D.1.5

REMOVING THE RUBBER BUSH AND WASHER

1. Bush, Rubber.
2. Washer.

6. Grip the firing pin in a vice equipped with soft clamps. Using a suitable punch and a hammer drive out the bush retaining pin. See Fig. D.1.6.

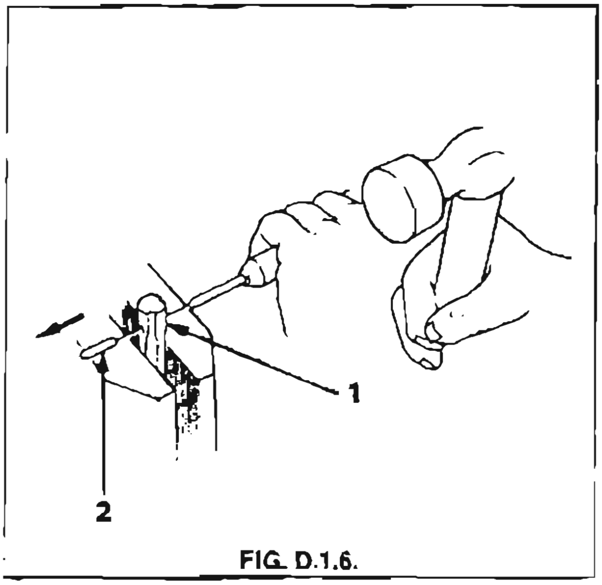


FIG. D.1.6.

REMOVING THE PIN, RETAINING BUSH

1. Pin, Firing.
2. Pin, Retaining Bush.

7. With bolt assembly gripped in a vice equipped with soft clamps, drive out the extractor retaining pin, taking care as the extractor will be under pressure from the spring inside. See Fig. D.1.7

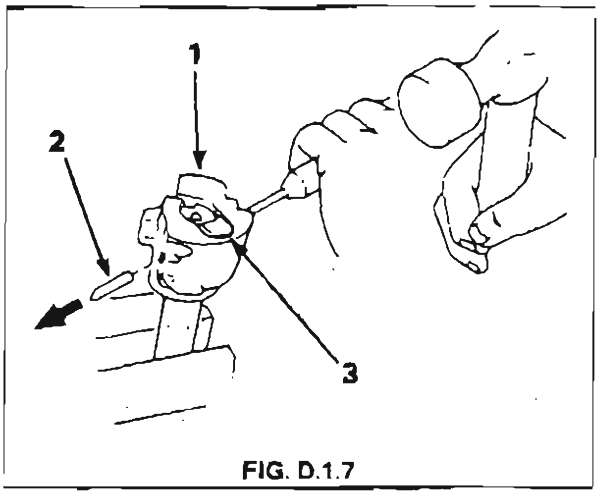


FIG. D.1.7

REMOVING EXTRACTOR RETAINING PIN

1. Bolt Assembly.
2. Pin, Retaining, Extractor.
3. Extractor.

8. Remove the extractor and extractor spring by hand. See Fig. D.1.8.

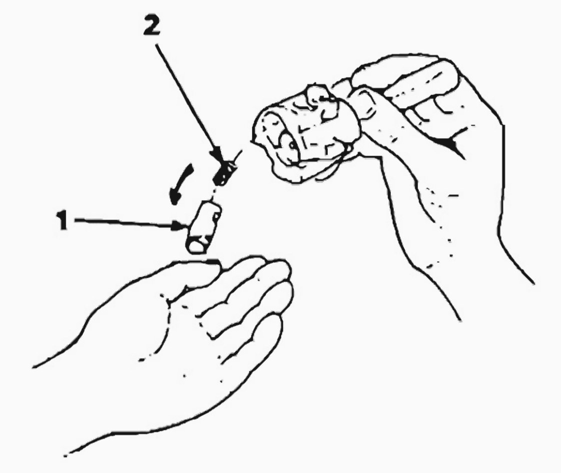


FIG. D.1.8

REMOVING THE EXTRACTOR AND EXTRACTOR SPRING

1. Extractor.
2. Spring, Extractor.

ASSEMBLING:

9. Assemble in the reverse order of stripping.

NOTES ON ASSEMBLING:

10. When assembling the firing pin to the bolt, ensure that the machined cut out in the firing pin is aligned with the retaining pin locating hole in the bolt. If they are not aligned the retaining pin will not enter fully. The outside diameter of the rubber bush fitted to the rear of the firing pin is slightly larger than the diameter of the recess in the rear of the bolt. When fitting the firing pin, compress the rubber bush slightly with the thumb and index finger before pushing it home. The rear of the firing pin will protrude slightly from the rear of the bolt after it is pushed in completely. See Fig. D.1.9

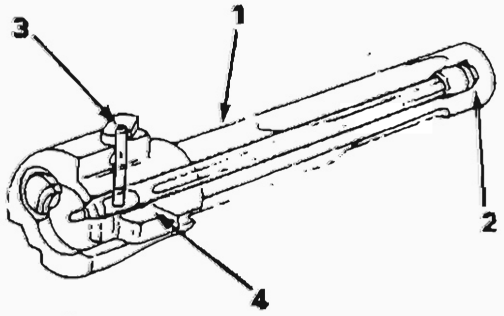


FIG. D.1.9

ALIGNMENT OF CUT-OUT IN FIRING PIN WITH RETAINING PIN

1. Bolt.
2. Pin, Firing.
3. Pin, Retaining, Firing Pin.
4. Cut out, Firing Pin.

11. When firing pin is assembled, it should not move freely within the bolt. The firing pin point should also protrude through the firing pin hole in the front of the bolt.

CHAPTER 4

INSPECTION PROCEDURE

INTRODUCTION:

WARNING:
Before starting an inspection be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty and check that no ammunition is in a position to be introduced.

1. Inspection of the weapon is of the utmost importance. Thorough, systematic inspection at regular intervals is the best insurance against an unexpected breakdown at the critical moment when maximum performance is desired.

2. Inspection is for the purpose of determining the condition of the weapon, whether repairs or adjustments are required and the remedies necessary to ensure serviceability and proper functioning. Its immediate aim is trouble-prevention, which includes:

   a. Preventative maintenance.

   b. Discovering evidence of improper treatment received before delivery.

   c. Determining when replacement of parts are necessary due to normal wear or defects.

INSPECTION OF BOLT ASSEMBLY AND COMPONENTS:

3. Ensure that firing pin is free from burrs and is not bent.

4. Ensure that the extractor is free from burrs and chips and that the pin hole is free from obstruction.

5. Ensure that the extractor spring is not kinked or weak.

6. Ensure that bolt is free from burrs, scores and cracks.

7. Ensure that firing pin hole in bolt face is free from burrs, cracks, pitting or ringing.

8. Ensure that firing pin point is not damaged and has a uniform radius.

9. Ensure that firing pin point is not damaged or distorted.

10. Ensure that serial number of bolt corresponds to that of the receiver.

GAUGING OF ASSEMBLED BOLT

EXTRACTOR GAP:

11. Ensure that gap between underside face of extractor lip is between 1.54 mm and 2.00 mm, by using extractor gap gauge. See Fig. D.1.10

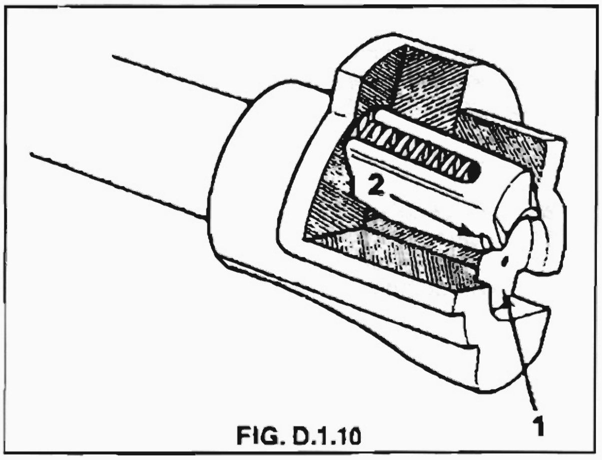


FIG. D.1.10

LOCATION OF EXTRACTOR LIP

1. Bolt Face.
2. Extractor Lip.

12. Position the Accept gauge end 1.545 mm of the plug gauge squarely onto the bolt face and rotate the gauge between the bolt face and the underside face of the extractor lip. If the gauge cannot be rotated the reason must be investigated and the cause rectified. See Fig. D.1.11

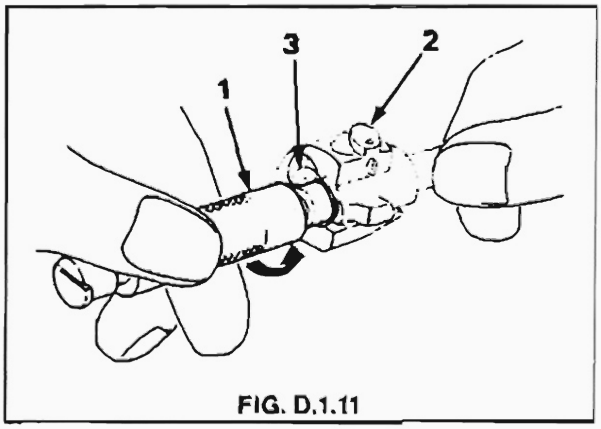


FIG. D.1.11

EXTRACTOR GAP CHECK

1. Gauge, Plug.
2. Bolt.
3. Extractor.

13. Position the Reject gauge end 2.00 mm squarely onto the bolt face and check that when rotated, the gauge does not pass under the extractor lip. If it does the extractor must be replaced.

FIRING PIN PROTRUSION:

14. Ensure that the firing pin protrusion measures between 0,600 mm and 0,875 mm, using protrusion gauge. The dimension is obtained from the end face of the gauge, when the firing pin is pushed to its forward position inside the bolt. The measurement between the two steps is 0,275 mm. If the protrusion of the rod end does not fall between the two steps, the firing pin must be changed and the test repeated.

MINIMUM PROTRUSION:

15. With the aid of a straight edge, check that the end of the floating rod inside the gauge is level with, or protrudes beyond, the face of the lowest step on the gauge. If the rod end does not reach the straight edge the firing pin is out of limits and must be replaced. See Fig. D.1.12

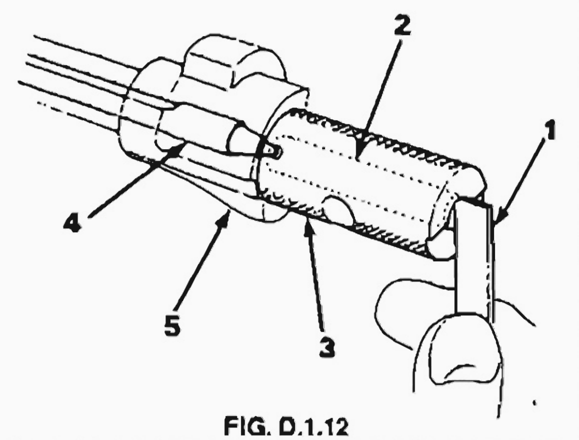


FIG. D.1.12

CHECKING FIRING PIN PROTRUSION (MINIMUM)

1. Edge, Straight.
2. Rod, Floating.
3. Gauge.
4. Pin, Firing.
5. Bolt Assembly.

MAXIMUM PROTRUSION:

16. Reposition the straight edge on the face of the highest step and check that the end of the floating rod is below, or level with, the straight edge. If the rod end projects beyond the straight edge the firing pin is out of limits and must be repaired. See Fig. D.1.13

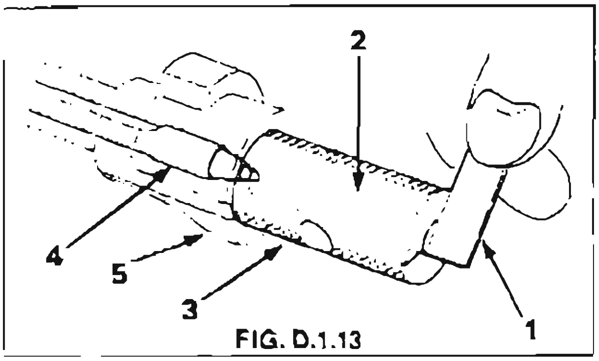


FIG. D.1.13

CHECKING FIRING PIN PROTRUSION (MAXIMUM)

1. Edge, Straight.
2. Rod, Floating.
3. Gauge.
4. Pin, Firing.
5. Bolt Assembly.

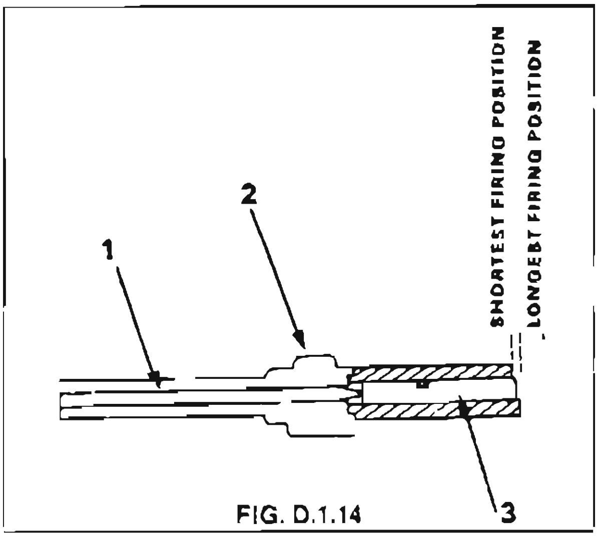

SHORTEST FIRING POSITION
LONGEST FIRING POSITION
2
1
3

FIG. D.1.14

SECTIONAL VIEW OF PROTRUSION GAUGE.

1. Pin, Firing.
2. Bolt.
3. Rod, Floating.

SUB SECTION D.1
CHAPTER 5
REPAIR PROCEDURE

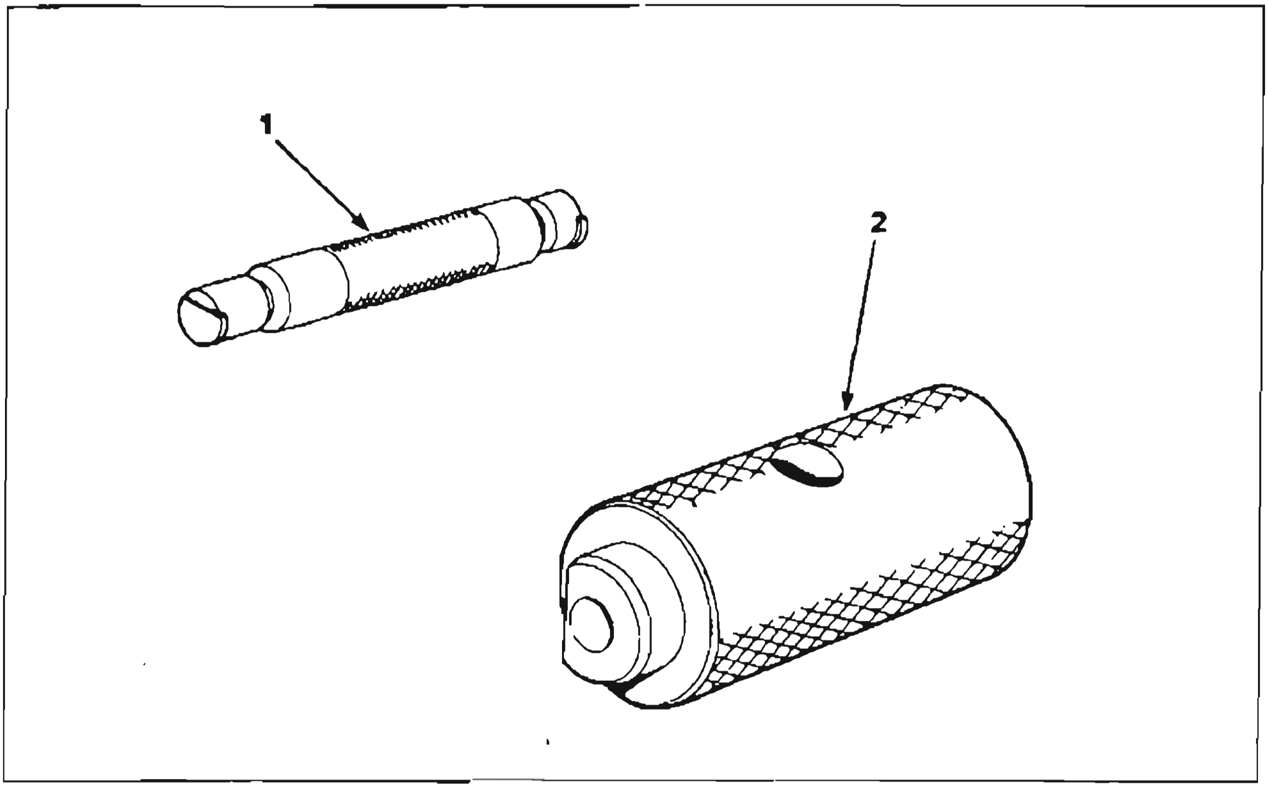
INTRODUCTION:

WARNING:
Before starting with any repairs, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty and check that no ammunition is in a position to be introduced.

REPAIRS TO FIRING PIN:

1. If firing pin protrusion exceeds 0,875 mm, polish down firing pin point to correct dimension, ensuring to maintain the correct radius.

SPECIAL WORKSHOP TOOLS



ITEM	TOOL NO.	DESCRIPTION	REPAIR LINE 1 2 4
1	356/06506/5000/▽/04	Gauge, Plug, Extract Gap	X X X
2	356/06505/5000/▽/00	Firing, Pin Protrusion, Gauge	X X X

SUB-SECTION D.2

CHAPTER 1

BRIEF DESCRIPTION

INTRODUCTION:

1. The bolt carrier assembly consists of the bolt carrier body and a gas piston which is chromium plated. A cocking handle is located on the right hand side of the bolt carrier body. The body is bored internally to accommodate the return spring assembly. The bolt assembly is also accommodated by bolt carrier.

2. The bolt carrier assembly consists of the following components, as illustrated in Fig. D.2.1.

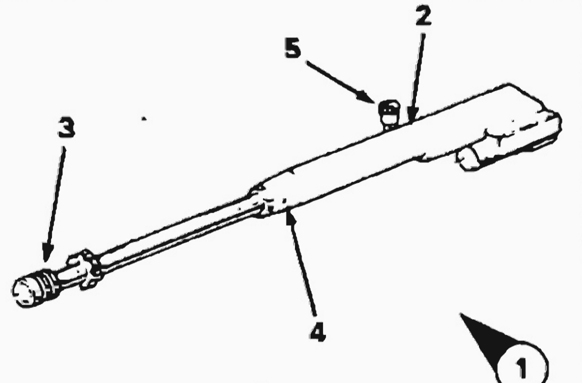


FIG. D.2.1.

BOLT CARRIER ASSEMBLY

1. Carrier Assembly, Bolt.
2. Body, Bolt Carrier.
3. Piston, Gas.
4. Pin.
5. Handle, Cocking.

SUB-SECTION D.2

CHAPTER 2

FAULT FINDING, DIAGNOSTIC AND CORRECTIVE PROCEDURE

INTRODUCTION:

WARNING:
Before starting with fault finding, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty, and check that no ammunition is in position to be introduced.

SERIAL	FAULT	REMEDY
1	Excessive wear or cracks of bolt carrier grooves	Replace
2	Damaged threads	Repair or replace
3	Loose cocking handle	Repair
4	Broken or missing cocking handle	Replace bolt carrier
5	Damaged, bent or cracked gas piston	Replace
6	Damaged roll pin	Replace
7	Excessive wear or cracks of bolt carrier cams	Replace bolt carrier
8	Burrs	Remove by filing or stoning

CHAPTER 3

STRIPPING AND ASSEMBLING PROCEDURE

INTRODUCTION:

WARNING:
Before starting the stripping procedure, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty and check that no ammunition is in a position to be introduced.

STRIPPING:

1. Remove cover, return spring assembly and breech mechanism group. Remove bolt assembly from bolt carrier.

2. File off centre punch or chiselled indentations around pin hole and drive out retaining pin with the aid of a suitable punch and a hammer. See Fig. D.2.2.

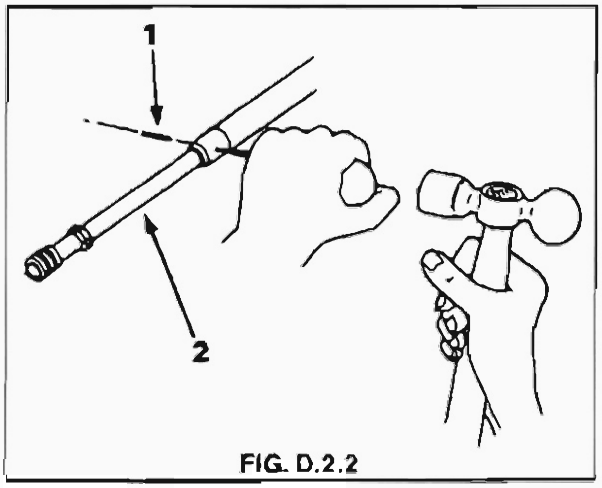


FIG. D.2.2

REMOVAL OF RETAINING PIN

1. Pin, Retaining.
2. Body, Bolt Carrier.

3. Unscrew the gas piston from the bolt carrier body. See Fig. D.2.3.

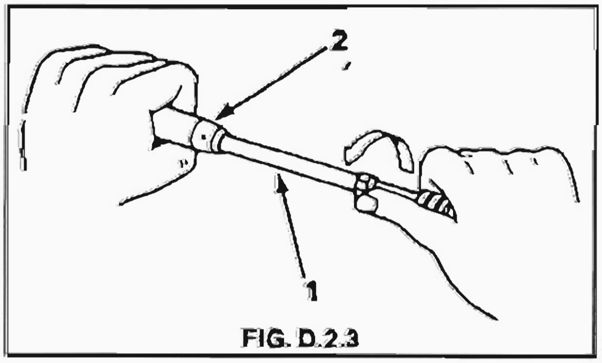


FIG. D.2.3

REMOVAL OF GAS PISTON FROM BOLT CARRIER BODY

1. Piston, Gas.
2. Body, Bolt Carrier.

ASSEMBLING:

4. Screw the gas piston fully into the bolt carrier body until tight, then screw slightly until the pin hole in the gas piston aligns with the pin hole either side of the bolt carrier body. Insert the pin through the hole in the bolt carrier body and the gas piston. Check that the piston's free movement about its centre line is at least 0,8 mm. See Fig. D.2.4

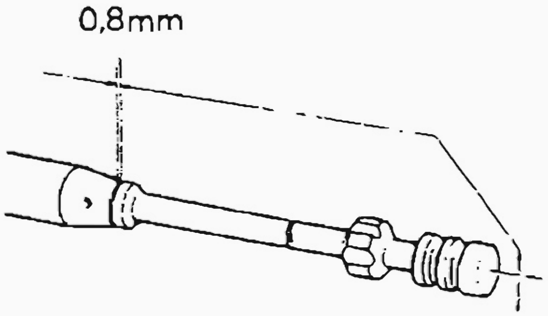


FIG. D.2.4

FREE MOVEMENT ABOUT PISTON CENTRE-LINE

5. If the free movement of the piston end is less than 0,8 mm, remove the pin and unscrew the piston one half revolution. Replace the pin and check the free movement again, repeating the process if necessary until the free movement is correct. Secure pin by staking the bolt carrier.

6. Assemble in the reverse order of stripping.

INTRODUCTION:

WARNING:
Before starting an inspection, be sure to clear the weapon. Do not acutate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty and check that no ammunition is in a position to be introduced.

1. Inspection of the weapon, is of the utmost importance. Thorough, systematic inspection at regular intervals is the best insurance against an unexpected breakdown at the critical moment when maximum performance is desired.
2. Inspection is for the purpose of determining the condition of the weapon, whether repairs or adjustments are required, and the remedies necessary to ensure serviceability and proper functioning. Its immediate aim is trouble-preventation, which includes:
   - a. Preventative maintenance.
   - b. Discovering evidence of improper treatment received before delivery.
   - c. Determining when replacement of parts are necessary due to normal wear or defects.

INSPECTION OF COCKING ASSEMBLY:

3. Ensure that the cocking handle is securely attached to the bolt carrier body.
4. Ensure that grooves cam in the bolt carrier body are free from cracks and burrs.
5. Ensure that the thread inside the bolt carrier body is free from damage.
6. Ensure that the thread end of the gas piston is free from damage.
7. Ensure that the gas piston is free from distortion.
8. Ensure that the gas piston is free from burrs and nicks.
9. Ensure that clearance between gas piston and bolt carrier body has at least 0,8 mm free movement above piston centre line. See Fig. D.2.5

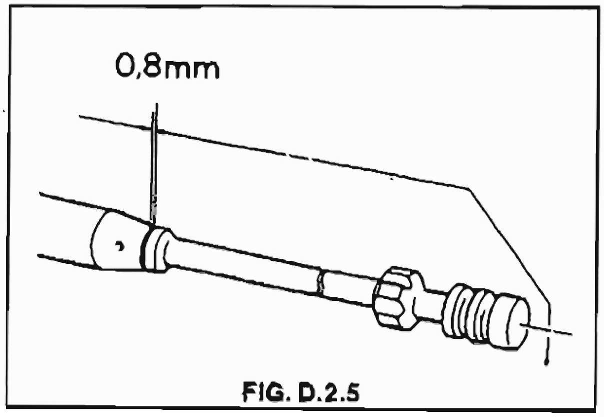


FIG. D.2.5

FREE MOVEMENT ABOUT PISTON CENTRE-LINE

SUB-SECTION D.2

CHAPTER 5

REPAIR PROCEDURE

INTRODUCTION:

WARNING:
Before starting with any repairs, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty and check that no ammunition is in a position to be introduced.

REPAIRS TO LOOSE COCKING HANDLE:

1. Where a cocking handle is loose, clean cocking handle and bolt carrier thoroughly and then braze it to bolt carrier.

SUB-SECTION D.3

CHAPTER 1

BRIEF DESCRIPTION

INTRODUCTION:

1. The forward end of the piston guide tube located on a shoulder on the gas block, and its other end is located between machined guides situated on top of the receiver. The gas piston, which is connected to the bolt carrier assembly, is housed within the guide tube and moves backwards and forwards along the guide tube when a round is fired. A spring is located on the underside of the guide tube between the guide tube base and the receiver body. The spring is formed in the shape of a letter 'L' with a bend formed in the longest leg of the 'L'

2. The piston guide tube assembly consists of the following components, as illustrated in Fig. D.3.1

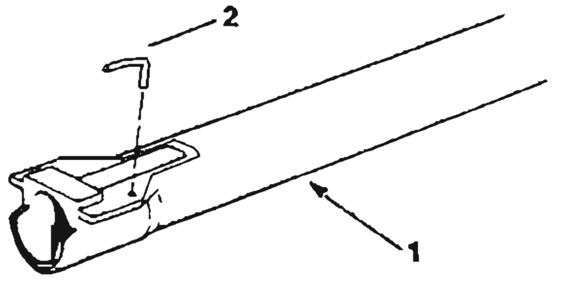


FIG. D.3.1.

PISTON GUIDE TUBE

1. Tube, Piston, Guide.
2. Spring.

SUB-SECTION D.3

CHAPTER 2

FAULT FINDING, DIAGNOSTIC AND CORRECTIVE PROCEDURE

INTRODUCTION:

WARNING:
Before starting with fault finding, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty, and check that no ammunition is in a position to be introduced.

SERIAL	FAULT	REMEDY
1	Dents	Replace if piston motion impaired
2	Bent tube	Replace if piston motion impaired
3	Damaged exhaust holes	Replace guide tube
4	Shear/deformation at cover groove	Replace guide tube
5	Shear/deformation at locating ridge	Replace guide tube
6	Missing/damaged spring	Replace spring
7	Burrs	Remove by filing or stoning

SUB-SECTION D.3

CHAPTER 3

STRIPPING AND ASSEMBLING PROCEDURE

INTRODUCTION:

WARNING:
Before starting with the stripping procedure, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty and check that no ammunition is in a position to be introduced.

STRIPPING:

1. Remove cover, return spring assembly and breech mechanism group.

2. Remove piston guide tube by pulling it rearwards, until it is clear of gas block and guides on top of receiver. See Fig. D.3.2.

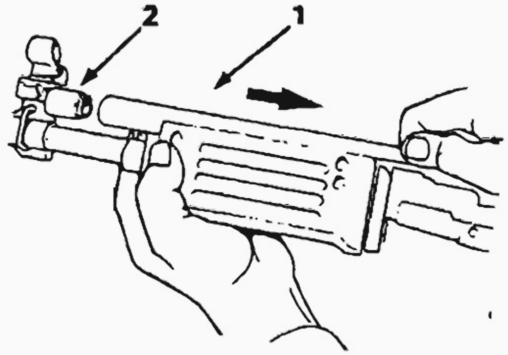


FIG. D.3.2

REMOVING PISTON GUIDE TUBE

1. Tube, Piston, Guide.
2. Gas Block.

3. Release the spring from the guide hole by filing away the centre punch marks that retain the spring in the hole. The spring may then be removed with a pair of pliers. See Fig. D.3.3.

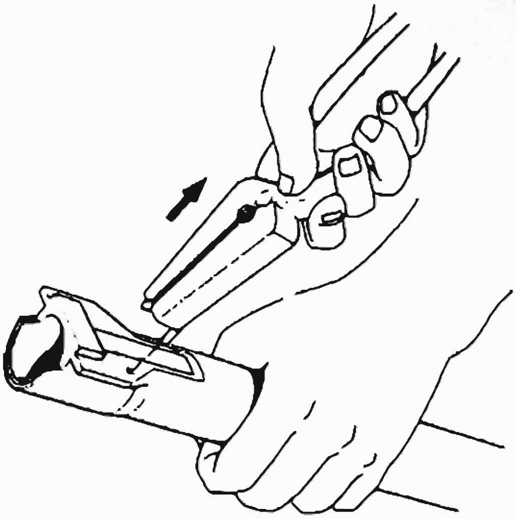


FIG. D.3.3

REMOVING SPRING FROM PISTON GUIDE TUBE

1. Spring.
2. Tube, Piston, Guide.
3. Centre Punch Marks.

4. Fit the spring into guide hole and centre punch the metal around the hole to locate the spring securely. See Fig. D.3.4.

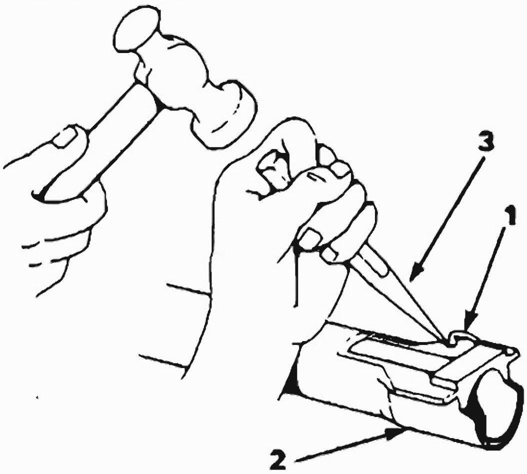


FIG. D.3.4

CENTRE PUNCHING METAL AROUND SPRING

1. Spring.
2. Tube, Piston, Guide.
3. Punch, Centre.

ASSEMBLING:

5. Assemble in reverse order of stripping.

SUB-SECTION D.3

CHAPTER 4

INSPECTION PROCEDURE

INTRODUCTION:

WARNING:
Before starting an inspection, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty and check that no ammunition is in a position to be introduced.

1. Inspection of the weapon is of the utmost importance. Thorough, systematic inspection at regular intervals is the best insurance against an unexpected breakdown at the critical moment when maximum performance is desired.

2. Inspection is for the purpose of determining the condition of the weapon, whether repairs are received, and the remedies necessary to ensure serviceability and proper functioning. Its immediate aim is trouble-prevention, which includes:

   a. Preventative maintenance.

   b. Discovering evidence of improper treatment received before delivery.

   c. Determining when replacement of parts are necessary due to normal wear or defects.

INSPECTION OF GUIDE TUBE COMPONENTS:

3. Ensure that piston guide tube is not dented or bent in such a way it interferes with the function of the gas piston.

4. Ensure that there are no signs of shearing, cracks or deformation in either the rear locating lugs or locating groove for the cover.

5. Ensure that interior and gas vents are free from carbon deposits.

6. Ensure that interior is not excessively pitted.

7. Ensure that spring is securely fitted to the guide tube.

8. Ensure that spring is not distorted.

SUB-SECTION D.4

CHAPTER 1

BRIEF DESCRIPTION

INTRODUCTION:

1. The return spring assembly is located in the rear end of the bolt carrier assembly with the recoil body locating into the recess at the rear of the receiver.

2. The return spring assembly consists of the following components, as illustrated in Fig. D.4.1.

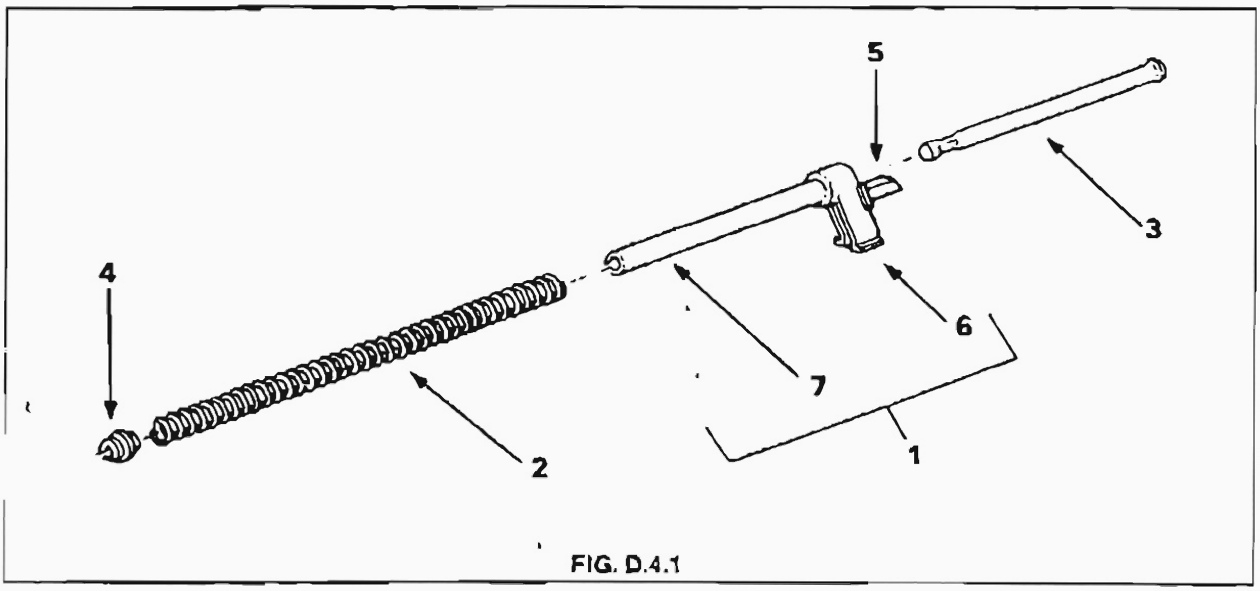


FIG. D.4.1

RETURN SPRING ASSEMBLY

1. Body, Recoil.
2. Spring, Return.
3. Rod, Guide.
4. Ring, Rod Guide.
5. Catch, Cover.
6. Slide, Recoil.
7. Tube.

SUB-SECTION D.4

CHAPTER 2

FAULT FINDING, DIAGNOSTIC AND CORRECTIVE PROCEDURE

INTRODUCTION:

WARNING:
Before starting with fault finding, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty, and check that no ammunition is in position to be introduced.

SERIAL	FAULT	REMEDY
1	Weak or broken spring	Replace
2	Uneven pitch of spring	Replace
3	Shear/cracks on body recoil	Replace
4	Broken joint between slide and tube	Replace and braze
5	Damaged or worn recoil body	Replace
6	Damaged or bent rod guide	Replace
7	Damaged ring rod guide	Replace
8	Burrs	Remove by filing or stoning

SUB-SECTION D.4

CHAPTER 3

STRIPPING AND ASSEMBLING PROCEDURE

INTRODUCTION:

WARNING:
Before starting the stripping procedure, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty and check that no ammunition is in a position to be introduced.

STRIPPING:

1. Remove cover and withdraw return spring assembly from rear end of bolt carrier.
2. Refer to Fig. D.4.2. Hold the return spring assembly vertically with the head of the recoil body supported on a surface, and with the return spring uppermost. Compress the spring downwards towards recoil body and remove the locking rod guide.

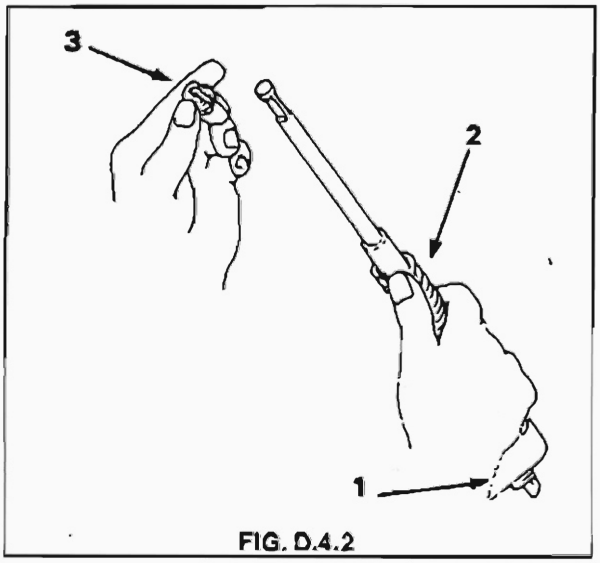


FIG. D.4.2

REMOVAL OF RECOIL ASSEMBLY LOCKING RING

1. Body, Recoil.
2. Spring, Return.
3. Ring, Rod Guide.

3. Release the compression on the return spring and remove the spring from the recoil body. Withdraw the guide rod through the headed end of the recoil body. See Fig. D.4.3.

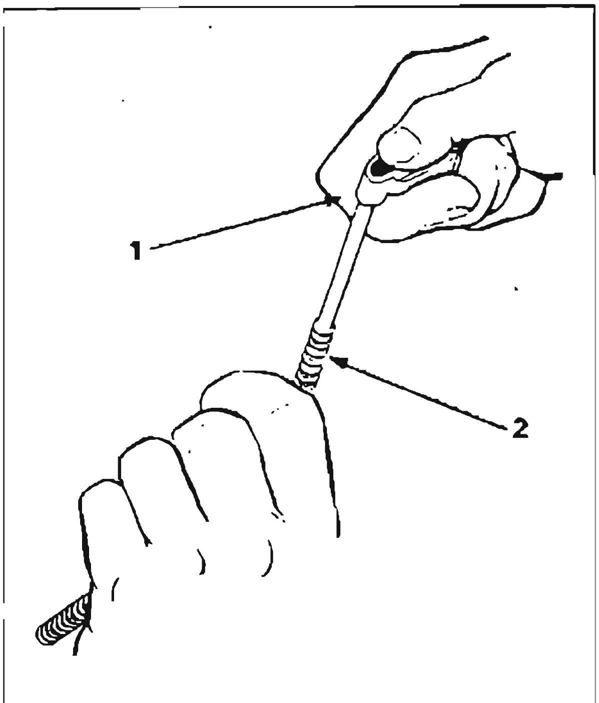


FIG. D.4.3

REMOVING SPRING FROM RECOIL BODY

1. Body, Recoil.
2. Spring, Return.

4. Withdraw the guide rod through the headed end of the recoil body. See Fig. D.4.4

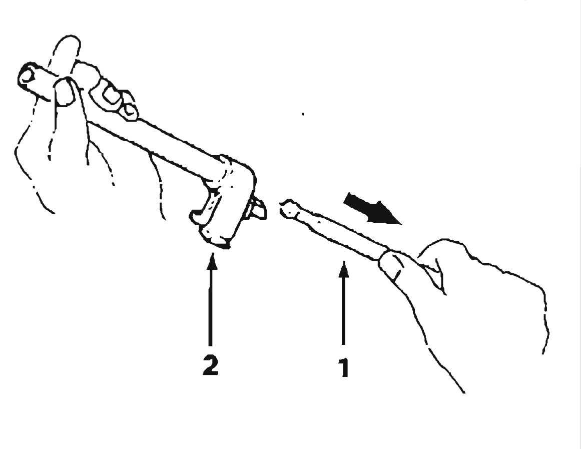


FIG. D.4.4

REMOVAL OF GUIDE ROD FROM RECOIL BODY

1. Rod, Guide.
2. Body, Recoil.

ASSEMBLING:

5. Assemble in the reverse order of stripping.

SUB-SECTION D.4

CHAPTER 4

INSPECTION PROCEDURE

INTRODUCTION:

WARNING:
Before starting an inspection, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty and check that no ammunition is in a position to be introduced.

1. Inspection of the weapon is of the utmost importance. Thorough, systematic inspection at regular intervals is the best insurance against an unexpected breakdown at the critical moment when maximum performance is desired.

2. Inspection is for the purpose of determining the condition of the weapon, whether repairs are required, and the remedies necessary to ensure serviceability and proper functioning. Its immediate aim is trouble-prevention, which includes:

   a. Preventative maintenance.

   b. Discovering evidence of improper treatment received before delivery.

   c. Determining when replacement of parts are necessary due to normal wear or defects.

INSPECTION OF RETURN SPRING ASSEMBLY COMPONENT:

3. Ensure that return spring is free from kinks and is not distorted.

4. Ensure that the guide rod is free from distortion and cracks.

5. Ensure that the recoil body is free from distortion, cracks or burrs.

6. Ensure that the ring rod guide is free from burrs.

7. Ensure that the aperture through the recoil body is free from obstructions.

8. Ensure that slide recoil is securely fitted to tube.

9. Ensure that catch cover is free of burrs and is not damaged.

10. Ensure that when compressing the assembly completely and releasing the assembly, it returns to the normal position.

SUB-SECTION D.5

CHAPTER 1

HEADSPACE GAUGING

INTRODUCTION:

WARNING:
Before starting with headspace gauging, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty and check that no ammunition is in a position to be introduced.

HEADSPACE:

1. Headspace guaging consists of measuring the gap, with the aid of special precision gauges, between the bolt face and a specific part of the tapered barrel chamber, when the bolt carrier is in the fully forward or locked position. It is necessary to measure the gap to determine the amount of wear, if any, incurred during weapon usage. If wear over a certain limit is present, cartridges may not locate properly in the chamber, affecting the operation of the weapon.

2. Three checks are required to ascertain the weapon headspace, each check determining the amount of wear present and the necessary corrective action. Before any checks are made, ensure that the bolt, bolt carrier assembly, barrel chamber and all gauges are thoroughly clean.

MEASURING PROCEDURE:

3. Remove cover and return spring assembly, and slightly move breech mechanism rearwards.

ACCEPT CHECK:

4. Insert minimum gauge, 37,99 mm into barrel chamber and push bolt carrier with thumbs. The bolt must lock completely indicating that the weapon is serviceable. If the bolt does not lock, the cause could be an obstruction in the chamber, dirt on bolt face, a dislodged extractor or that headspace is too small. See Fig. D5.1

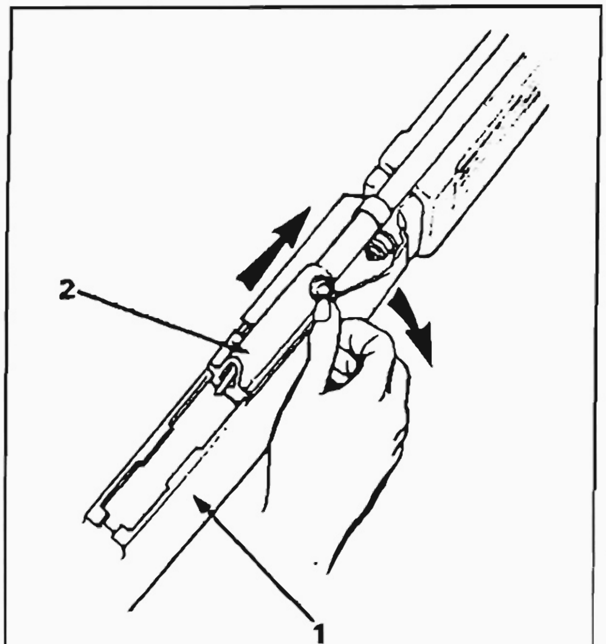


FIG. D.51

ACCEPTANCE CHECK

1. Receiver.
2. Bolt Carrier.

ACCEPT CHECK: MAXIMUM RECONDITION:

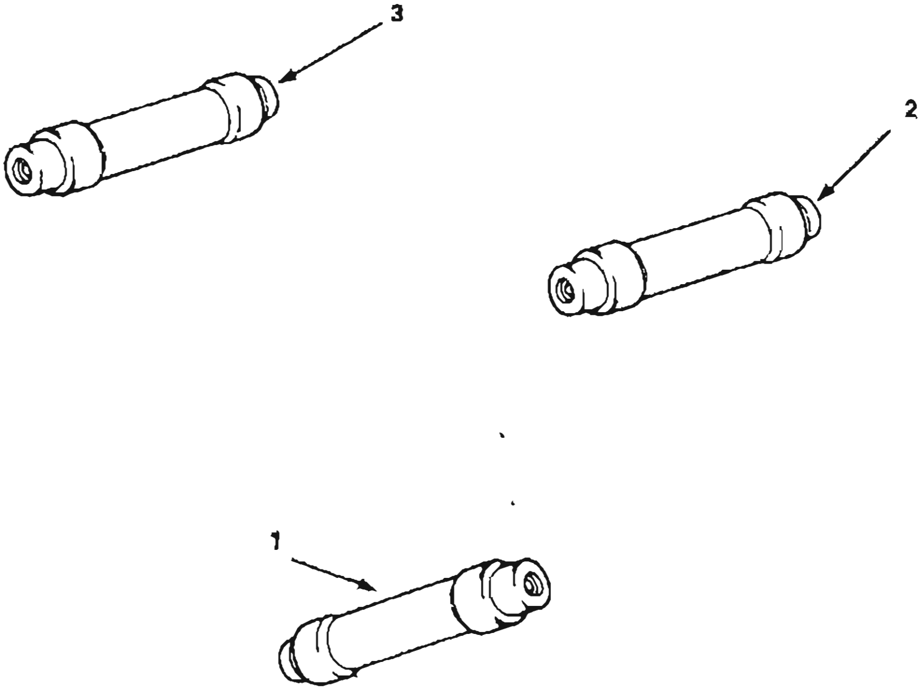
5. After applying the minimum headspace gauge successfully, insert maximum recondition gauge, Ø 38,22 mm into barrel chamber. The bolt must not lock. If the bolt locks, carry out the Reject Check and if bolt does not lock during this check, the weapon may still be used, but for a short time only. Any weapon falling into this category must have the details recorded and the Reject must be carried out to weapon periodically.

REJECT CHECK:

6. If the minimum and maximum recondition gauging is found to be acceptable, insert the reject gauge, 38,30 mm into barrel chamber. The bolt must not lock under any circumstances. Should the bolt lock, either replace with new bolt or bolt carrier, or both and carry out headspace gauging as per paragraph 4 and 5. If bolt still locks, then the weapon must be condemned for 5th line repair.

7. If a new bolt is fitted, the last four figures or serial number of the weapon must be engraved on it.

SPECIAL WORKSHOP TOOLS



ITEM	TOOL NO.	DESCRIPTION	REPAIR LINE		
			1	2	4
1	356/06502/5000/▽/10	Headspace Accept (37,99mm)	X	X	X
2	356/06504/5000/▽/07	Gauge, Headspace Reject (38,30mm)	X	X	X
3	356/06503/5000/▽/03	Gauge, Headspace Accept (38,22mm)	X	X	X

SECTION E

COVER GROUP

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SECTION E

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SUB-SECTION E.1

CHAPTER 1

BRIEF DESCRIPTION

INTRODUCTION:

1. The cover assembly serves two purposes, namely to cover the working components, to reduce the ingress of dirt and dust, and to provide a base for the rear sight.
2. The front end fits into the rear of piston guide tube and rear end into the recess at rear of receiver.
3. The cover assembly consists of the following components, as illustrated in Fig. E.1.1.

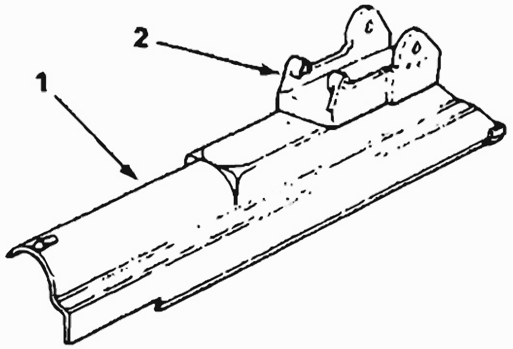

FIG. E.1.1

DUST COVER

1. Dust Cover.
2. Base, Rear Sight Assembly.

SUB-SECTION E.1

CHAPTER 2

FAULT FINDING, DIAGNOSTIC AND CORRECTIVE PROCEDURE

INTRODUCTION:

WARNING:
Before starting with fault finding, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty, and check that no ammunition is in a position to be introduced.

SERIAL	FAULT	REMEDY
1	Cover bent	Straighten if possible, otherwise replace
2	Loose sight base	Replace cover assembly
3	Damaged sight base	Replace cover assembly
4	Damaged cover	Replace
5	Burrs	Remove by filing or stoning

SUB-SECTION E.1

CHAPTER 3

STRIPPING AND ASSEMBLING PROCEDURE

INTRODUCTION:

WARNING:
Before starting with the stripping procedure, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty and check that no ammunition is in a position to be introduced.

STRIPPING:

1. Remove cover assembly from weapon, by pressing cover catch inward with right thumb, with left hand, tilt cover assembly to the right and remove it from the rifle. See Fig's. E.1.2 and E.1.3

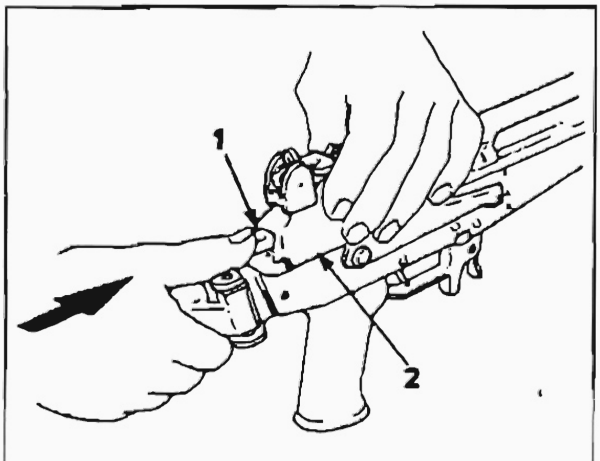

FIG. E.1.2

REMOVAL OF DUST COVER PRESSING COVER CATCH

1.Cover Catch.
2.Dust Cover.

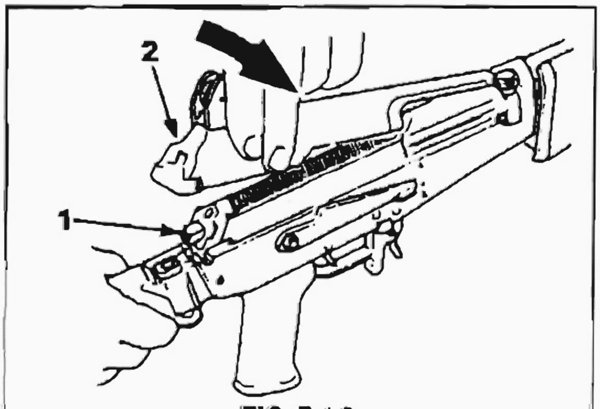

FIG. E.1.3

REMOVAL OF DUST COVER

1.Cover Catch.
2.Dust Cover.

ASSEMBLING:

2. Assemble in reverse order of stripping.

SUB-SECTION E.1

CHAPTER 4

INSPECTION PROCEDURE

INTRODUCTION:

WARNING:
Before starting an Inspection, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty and check that no ammunition is in a position to be introduced.

1. Inspection of the weapon is of the utmost importance. Thorough, systematic inspection at regular intervals is the best Insurance against an unexpected breakdown at the critical moment when maximum performance is desired.

2. Inspection is for the purpose of determining the condition of the weapon, whether repairs or adjustments are required, and the remedies necessary to ensure serviceability and proper functioning. Its immediate aim is trouble-prevention, which includes:

   a. Preventative maintenance.

   b. Discovering evidence of improper treatment received before delivery.

   c. Determining when replacement of parts are necessary due to normal wear or defects.

INSPECTION OF COVER:

3. Ensure that the rear sight base is securely attached to the cover and is free from damage.

4. Ensure that cover is free from splits, distortion, sharp edges and burns.

5. Ensure that cover is not bent to the extent that it interferes with the movement of the bolt carrier or right hand change lever.

SECTION F

TRIGGER MECHANISM GROUP

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SECTION F

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SUB-SECTION F.1

CHAPTER 1

BRIEF DESCRIPTION

INTRODUCTION:

NOTE:
The early weapons have a long hammer spring and do not have a trigger spring. The later weapons have a short hammer spring, a trigger spring and a modified trigger to accept the trigger spring.

1. All components of the trigger mechanism are housed in the receiver section of the weapon. The disconnector, hammer and trigger/sear assembly are all mounted on pivot (axis) pins which extend from one side of the receiver body to the other, the heads protruding on the left hand side, the ends being flush with the right hand side. These headed pivot pins are retained within the body by the long arm of the disconnector spring which seats in the groove cut in each of the pins.

2. The two change levers can be moved to three different positions, each of which affects the operation of the trigger mechanism. The change levers are inter-connected and allow the mode of fire to be selected from either side of the weapon. The right hand change lever also acts as a cove when it is in the 'S' (safe) position to prevent the ingress of dust, sand and dirt into the interior of the weapon. With the levers selected to the 'S' safe position, the change lever body prevents the trigger moving when squeezed and therefore prevents the hammer being released. When 'A' Automatic is selected and the trigger is squeezed the weapon will fire until pressure on the trigger is released. When 'R' Repeat (Rounds) is selected the weapon will fire a single shot every time the trigger is squeezed.

3. The hammer spring is a standard type spring. The disconnector and sear springs are both of the single standard type, as is the trigger spring which is only fitted to the later version of the weapon.

4. The trigger mechanism assembly consists of the following components as illustrated in Fig. F.1.1 and F.1.2.

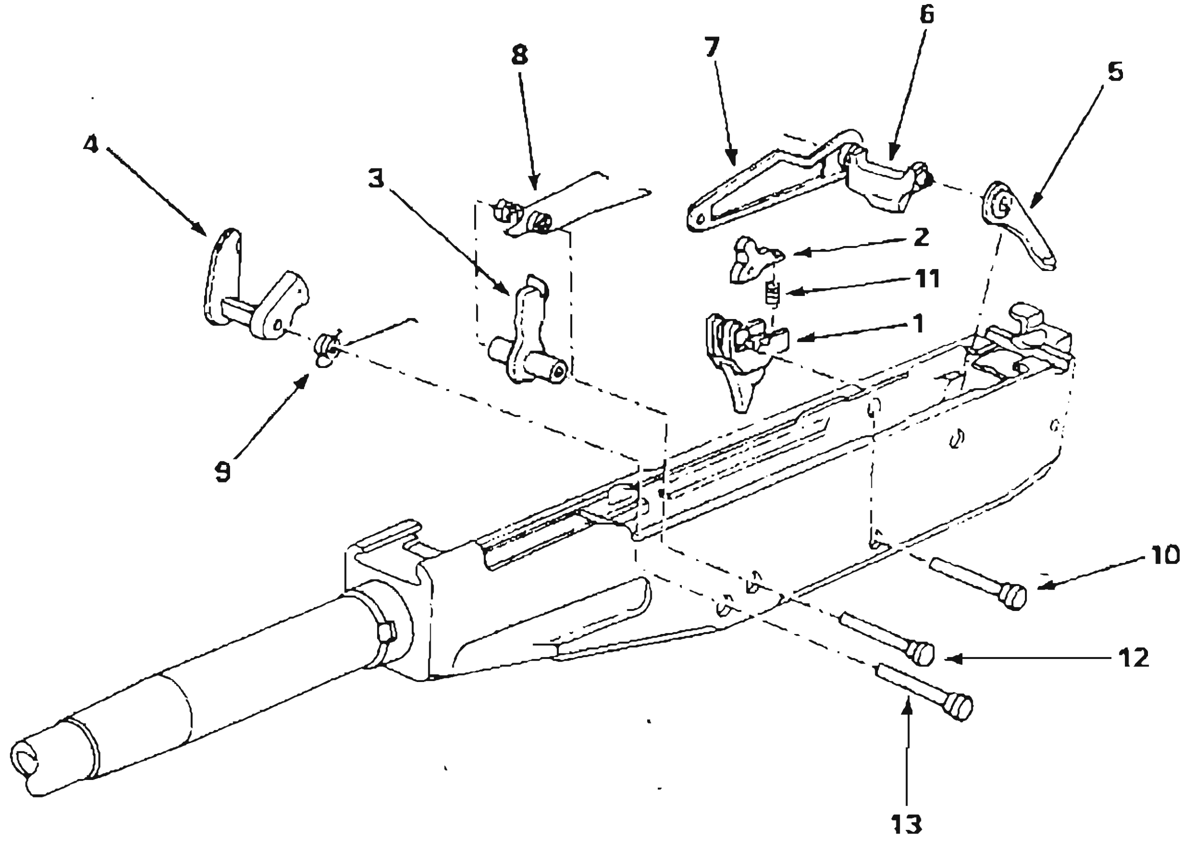


FIG. F.1.1

TRIGGER MECHANISM (EARLY WEAPONS)

1. Trigger.
2. Sear.
3. Hammer.
4. Disconnector.
5. Lever, Change, LH.
6. Body Change Lever Assembly.
7. Lever, Change, RH.
8. Spring, Hammer, Long.
9. Spring, Disconnector.
10. Pin, Axis, Sear/Trigger.
11. Spring, Sear.
12. Pin, Axis, Hammer.
13. Pin, Axis, Disconnector.

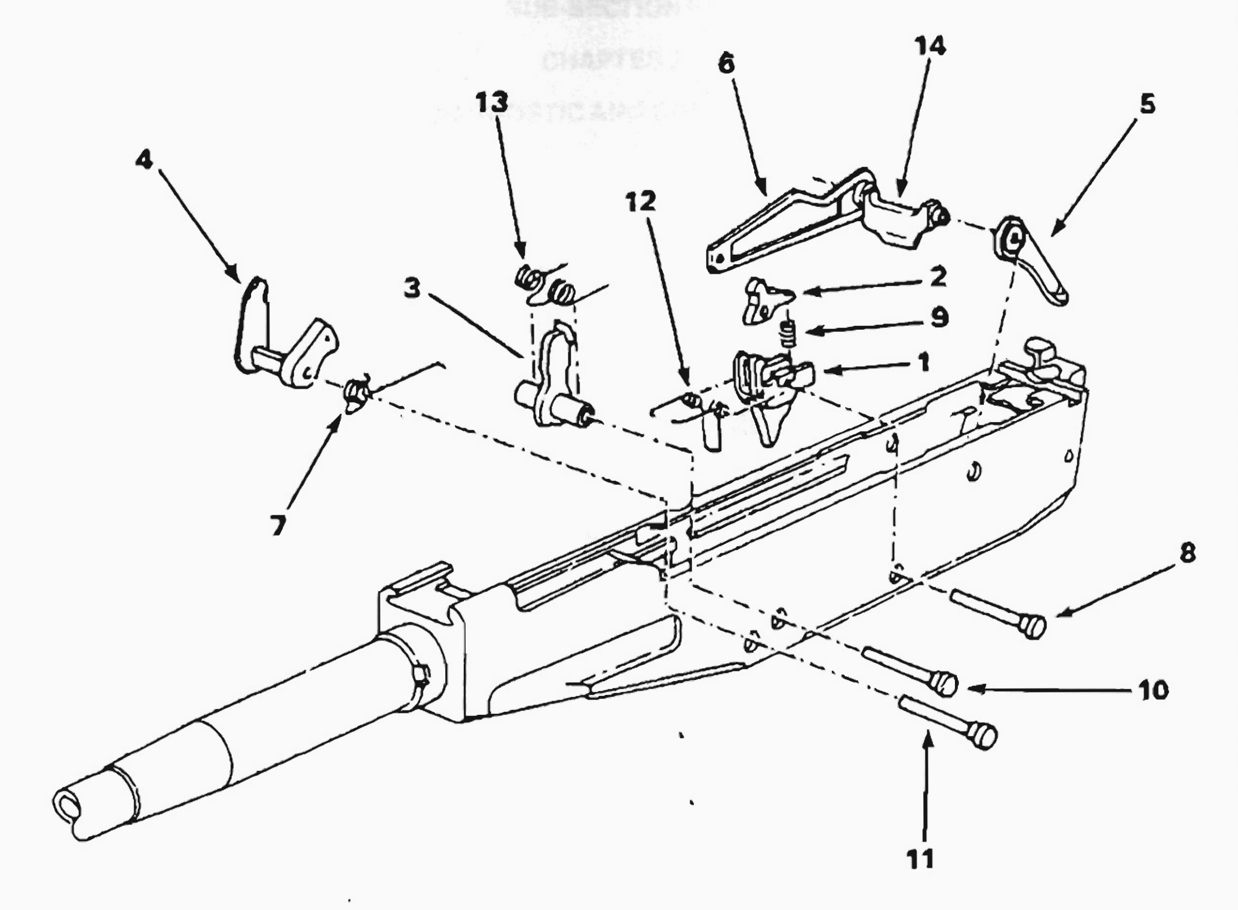


FIG. F.1.2

TRIGGER MECHANISM (LATER WEAPONS)

1. Trigger.
2. Sear.
3. Hammer.
4. Disconnector.
5. Lever, Change, LH.
6. Lever, Change, RH.
7. Spring, Disconnector.
8. Pin, Axis, Sear/Trigger.
9. Spring, Sear.
10. Pin, Axis, Hammer.
11. Pin, Axis, Disconnector.
12. Spring, Trigger.
13. Spring, Hammer, Short.
14. Body Change Lever Assembly.

SUB-SECTION F.1

CHAPTER 2

FAULT FINDING, DIAGNOSTIC AND CORRECTIVE PROCEDURES

INTRODUCTION:

WARNING:
Before starting with fault finding, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty, and check that no ammunition is in position to be introduced.

SERIAL	FAULT	REMEDY
1	Cracked or sheared components	Replace components
2	Wear on component striking surface or bents	Replace components
3	Worn axis pins	Replace axis pins
4	Worn holes in components	Replace
5	Broken or weak springs	Replace springs
6	Loose change lever RH on body lever	Replace change lever assembly
7	Worn dimple on change lever RH	Replace change lever assembly
8	Burrs	Remove by filing or stoning

SUB-SECTION F.1

CHAPTER 3

STRIPPING AND ASSEMBLING PROCEDURE

INTRODUCTION:

WARNING:
Before starting the stripping procedure, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty, and check that no ammunition is in a position to be introduced.

> *NOTE:*
> There are two alternative trigger mechanisms. The type of trigger mechanism is determined by the Rifle No. Rifles as from no. 679053 is fitted with modified trigger mechanisms. The stripping and assembly sequence for each type of trigger mechanism is dealt with separately.

STRIPPING: (BEFORE NO. 679053)

1. Remove cover, return spring assembly and breech mechanism group.

2. Position the change lever to either the 'A' (Automatic) or 'R' Repeat (Rounds) position. Using a suitable tool apply pressure to the top of the disconnector to disconnect it from the hammer, then squeeze the trigger taking care to keep fingers clear of the hammer as it strikes forward. See Fig. F.1.3.

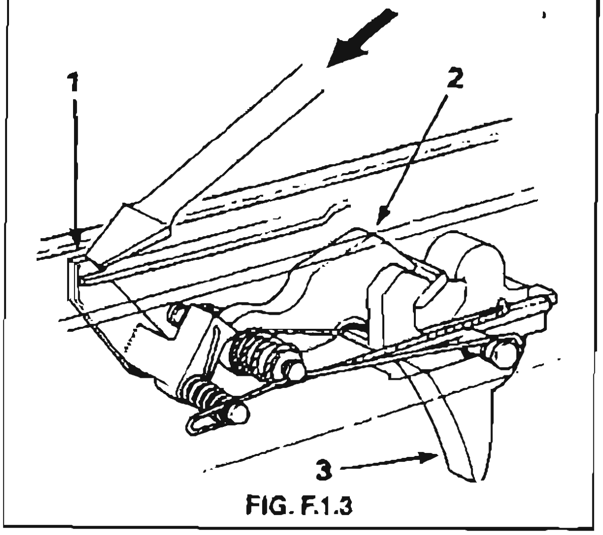


FIG. F.1.3

RELEASING DISCONNECTOR

1. Disconnector.
2. Hammer.
3. Trigger.

3. With the aid of the stripping pin and key tool, move the two ends of the hammer spring from their normal position on the trigger and reposition the ends around the top of the hammer. With the hammer spring ends repositioned in this manner removal of the sear and trigger is simplified. Fig. F.1.4 shows one of the hammer spring ends around the hammer top and the other spring end being moved from its normal position. See Fig. F.1.4 and F.1.5.

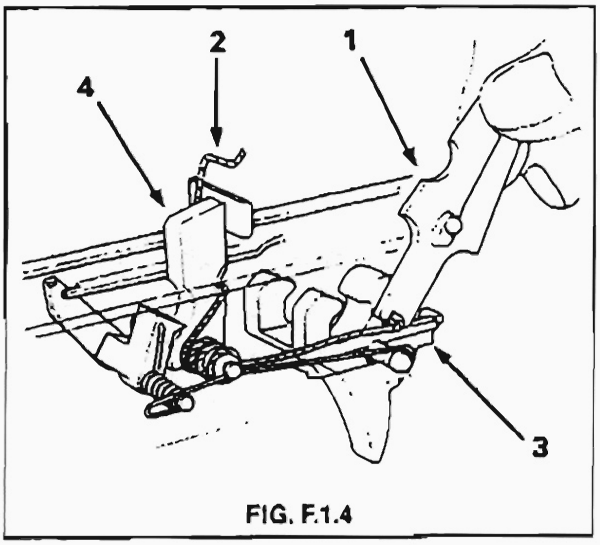


FIG. F.1.4

MANIPULATING HAMMER SPRING ENDS

1. Tool, Stripping Pin and Key.
2. Spring, Hammer.
3. Trigger.
4. Hammer.

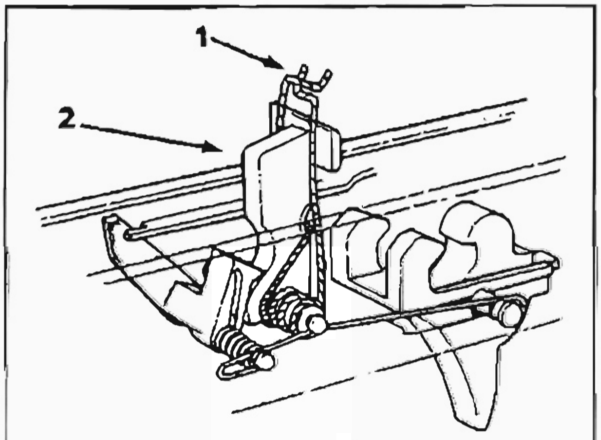


FIG. F.1.5

POSITIONING OF HAMMER SPRING ENDS

1. Spring, Hammer.
2. Hammer.

4. Remove the change lever assembly by moving the Right Hand change lever until the change lever body, aligns with the slot in the side of the receiver. Pull the end of the Right Hand change lever away from the receiver, easing the change lever body through the slot in the receiver. See Fig. F.1.6.

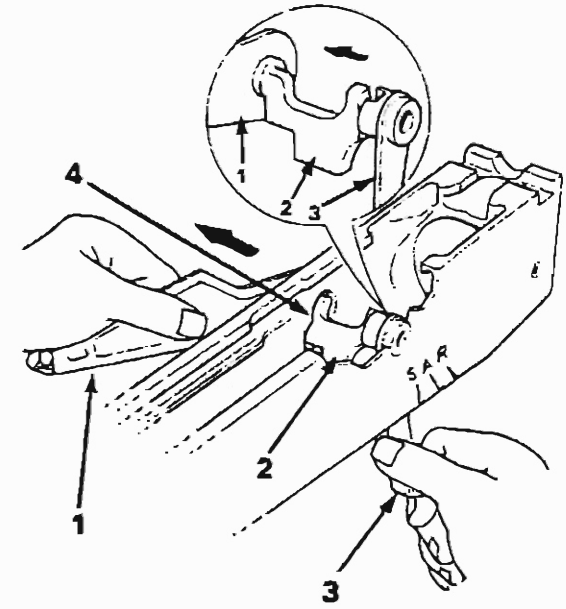


FIG. F.1.6

REMOVAL OF RIGHT HAND CHANGE LEVER

1. Lever, Change, RH.
2. Body, Lever, Change.
3. Lever, Change, LH.
4. Slot.

5. Remove the Left Hand change lever from its axis hole in the side of the receiver and withdraw the lever through the hole in the bottom of the receiver. See Fig. F.1.7.

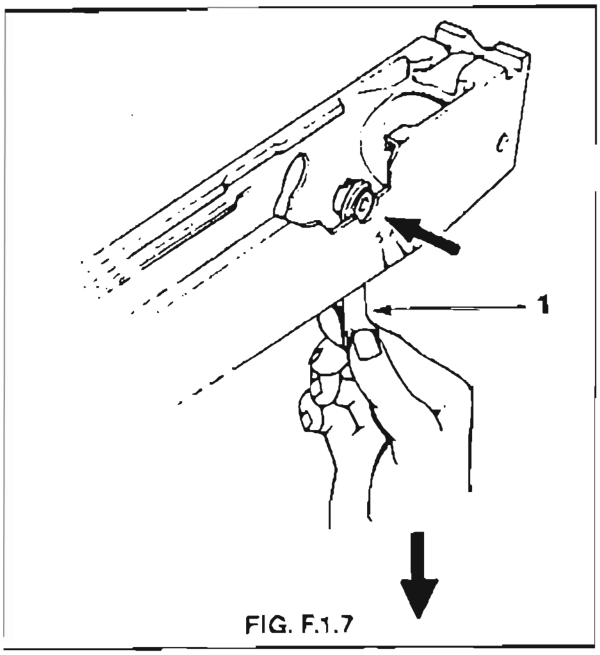


FIG. F.1.7

REMOVAL OF LEFT HAND CHANGE LEVER

1. Lever, Change, LH.

6. With the aid of the disconnector spring tool lift the end of the disconnector spring to clear the groove in the sear/Trigger axis pin. Fig. F.1.8.

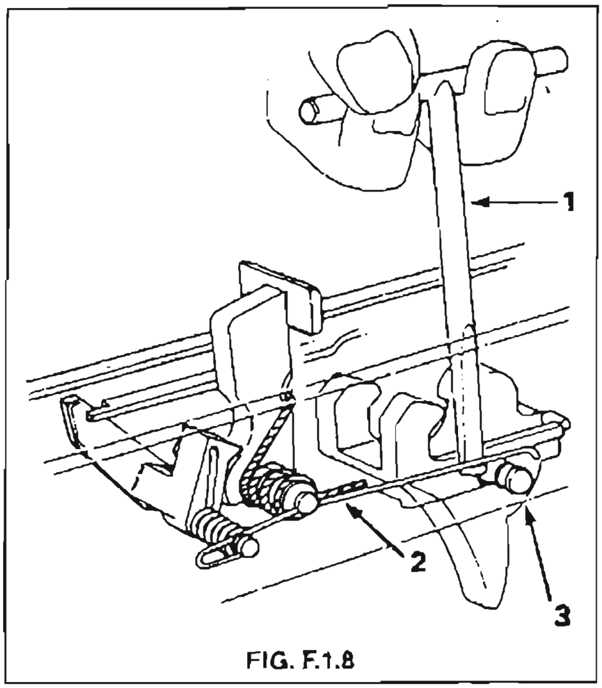


FIG. F.1.8

LIFTING DISCONNECTOR SPRING

1. Tool, Disconnector Spring.
2. Spring, Disconnector.
3. Pin, Axis, Sear/Trigger.

7. Remove the sear/trigger axis pin and allow the disconnector spring to return. Remove the sear, sear spring and the trigger. Take care when removing the axis pin as the sear is under pressure from the sear spring which is located between the sear and the trigger. See Fig. F.1.9.

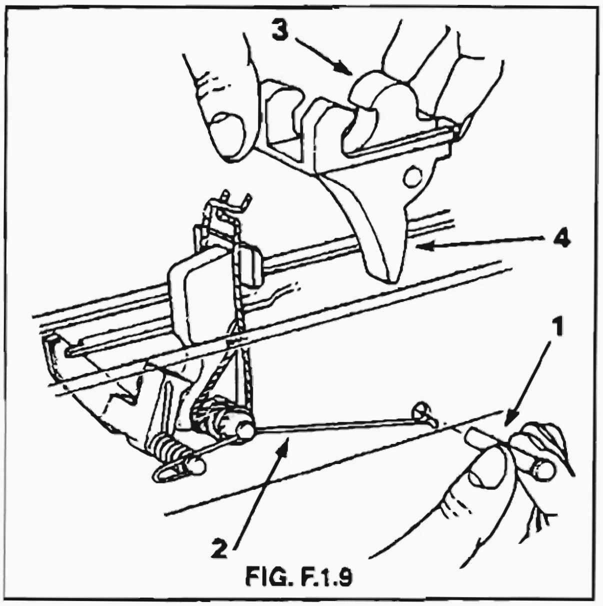


FIG. F.1.9

REMOVAL OF SEAR/TRIGGER ASSEMBLY

1. Pin, Axis.
2. Spring, Disconnector.
3. Sear.
4. Trigger.

8. Using the disconnector spring tool, apply pressure to the disconnector spring to force it down out of the groove in the hammer axis pin. See Fig. F.1.10.

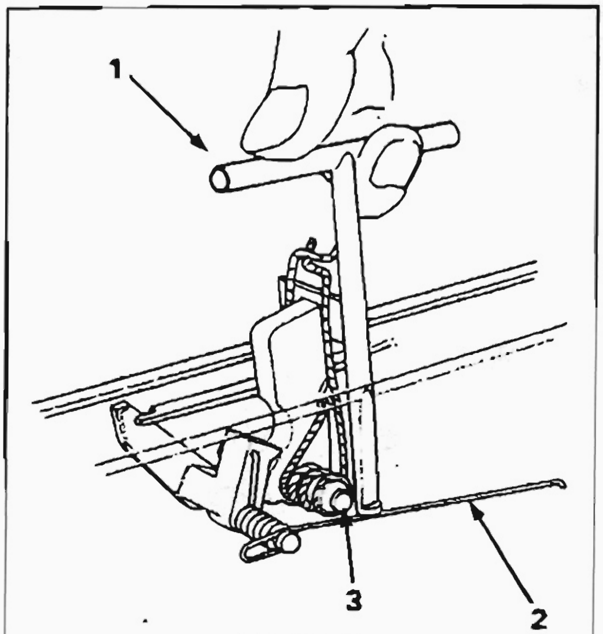


FIG. F.1.10

REMOVING DISCONNECTOR SPRING FROM HAMMER AXIS PIN GROOVE

1. Tool, Disconnector Spring.
2. Spring, Disconnector.
3. Pin, Axis, Hammer.

9. Withdraw hammer axis pin while disconnector spring is being pressed down. Remove the hammer complete with the hammer spring through the opening in the rear of the receiver. See Fig. F.1.11.

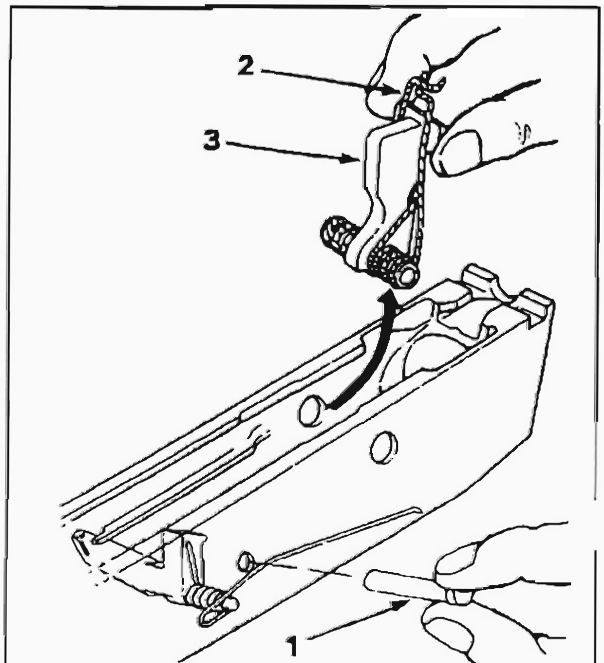


FIG. F.1.11

REMOVAL OF HAMMER, HAMMER SPRING AND AXIS PIN

1. Pin, Axis Hammer.
2. Hammer.
3. Spring, Hammer,

10. Withdraw the disconnector axis pin and remove the disconnector and the disconnector spring by sliding it to the rear and out through the opening in the rear of the receiver. See Fig. F.1.12.

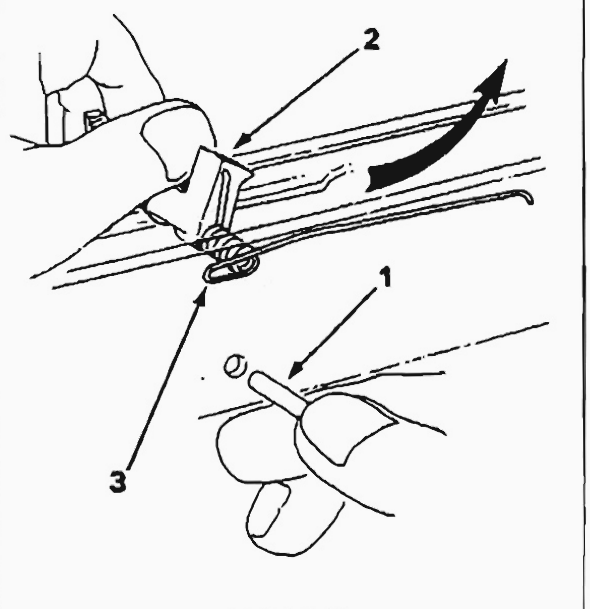


FIG. F.1.12

REMOVAL OF DISCONNECTOR ASSEMBLY

1. Pin, Axis.
2. Disconnector.
3. Spring, Disconnector.

ASSEMBLY OF TRIGGER MECHANISM (EARLY WEAPON):

11. Assemble in reverse order of stripping.

NOTES ON ASSEMBLING:

12. Ensure that the long arm of the disconnector spring locates in the groove in each of the axis pins.

STRIPPING (LATER WEAPON):

WARNING:
Before starting the stripping procedure, be sure to clear the weapon. Do no actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty, and check that no ammunition is in a position to be introduced.

13. Position the change lever to either the 'A' (Automatic) or 'R' Repeat (Rounds) position. Apply sufficient pressure with a suitable tool, to the top of the disconnector to enable it to disconnect from the hammer then squeeze the trigger taking care to keep fingers clear of the hammer as it strikes forward. See Fig. F.1.13.

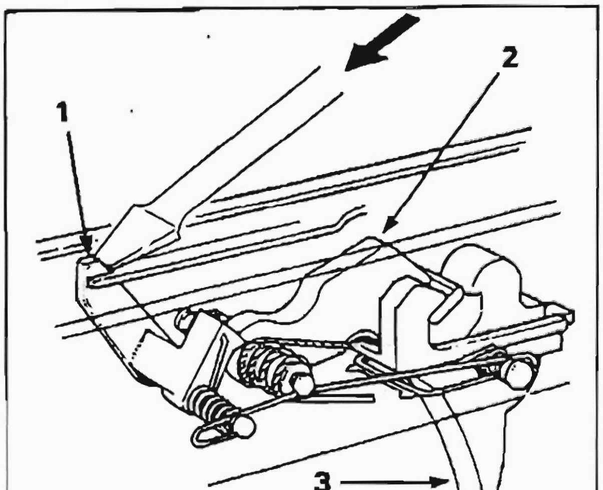


FIG. F.1.13

RELEASING DISCONNECTOR

1. Disconnector.
2. Hammer.
3. Trigger.

14. Remove the change lever assembly by moving the Right Hand change lever until the change lever body aligns with the slot in the side of the receiver. Pull the end of the Right Hand change lever away from the receiver, easing the change lever body through the slot in the receiver. See Fig. F.1.14.

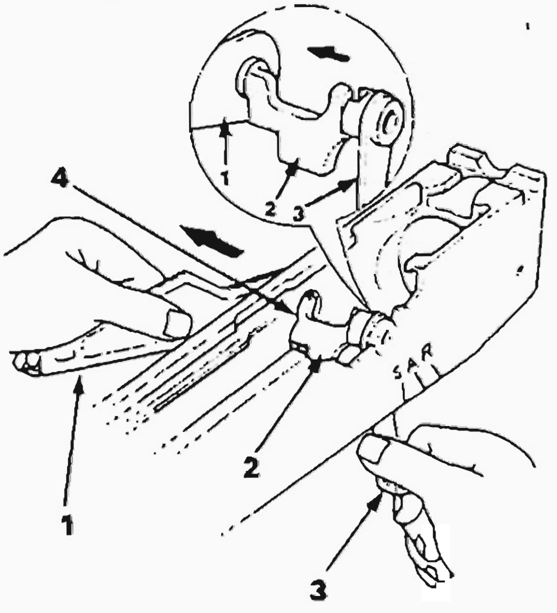


FIG. F.1.14

REMOVAL OF RIGHT HAND CHANGE LEVER

1. Lever, Change, RH.
2. Body, Lever, Change.
3. Lever, Change, LH.
4. Slot.

15. Remove the Left Hand change lever from its axis hole in the side of the receiver, withdraw the lever through the hole in the bottom of the receiver. See Fig. F.1.15.

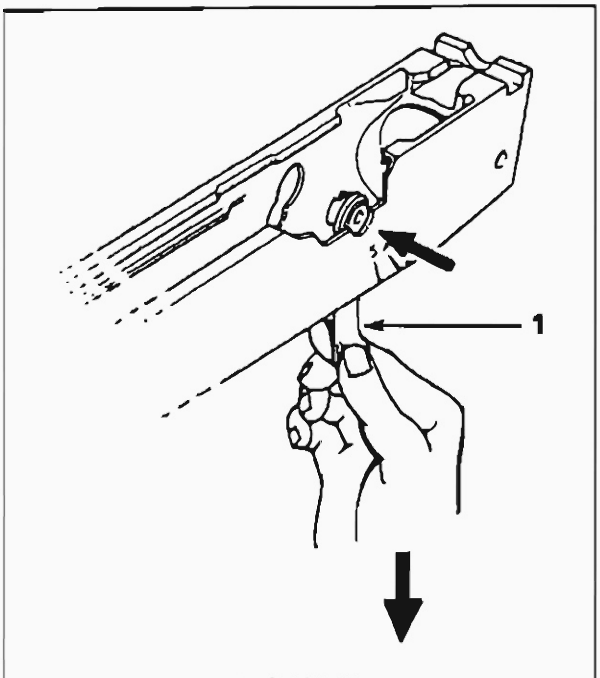


FIG. F.1.15

REMOVAL OF LEFT HAND CHANGE LEVER

1. Lever, Change, LH.

16. With the aid of the disconnector spring tool lift the end of the disconnector spring to clear the groove in the sear/trigger axis pin. See Fig. F.1.16.

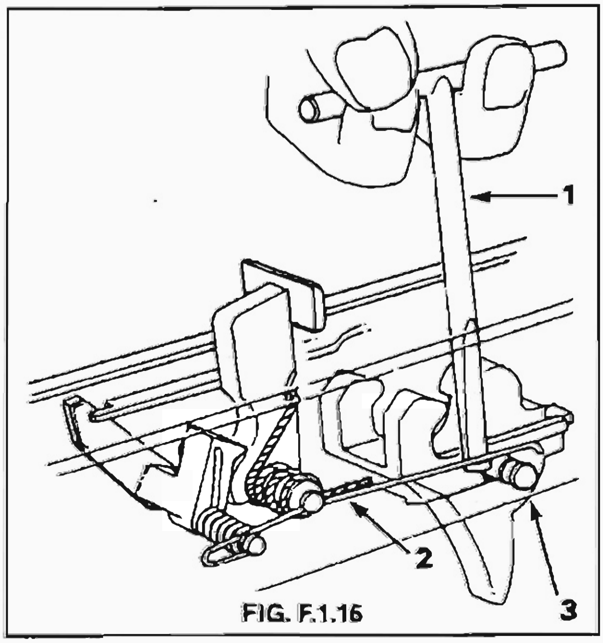


FIG. F.1.16

LIFTING DISCONNECTOR SPRING

1. Tool, Disconnector Spring.
2. Spring, Disconnector.
3. Pin, Axis, Sear, Trigger.

17. Remove the sear/trigger axis pin and withdraw the trigger, trigger spring, sear and the sear spring through the opening in the rear of the receiver. Take care as the sear will be under pressure from the sear spring which is located between the sear and the trigger. See Fig. F.1.17.

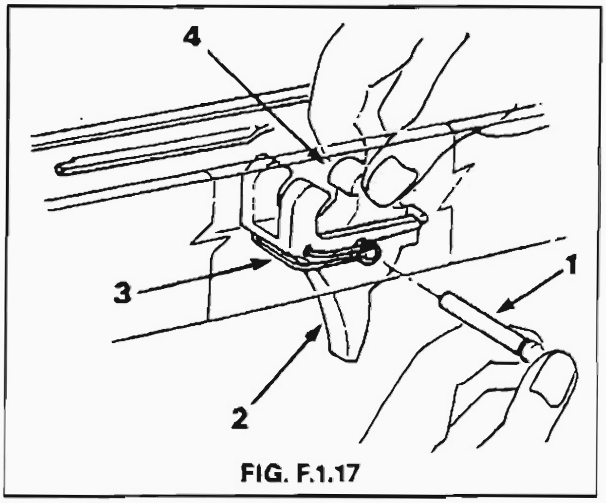


FIG. F.1.17

REMOVAL OF TRIGGER AND SEAR

1. Pin, Axis, Sear/Trigger.
2. Trigger.
3. Spring, Trigger.
4. Sear.
5. Spring, Sear (Not Shown).

18. Using the disconnector spring to allow the spring to clear the groove in the hammer axis pin and remove the axis pin. See Fig. F.1.18.

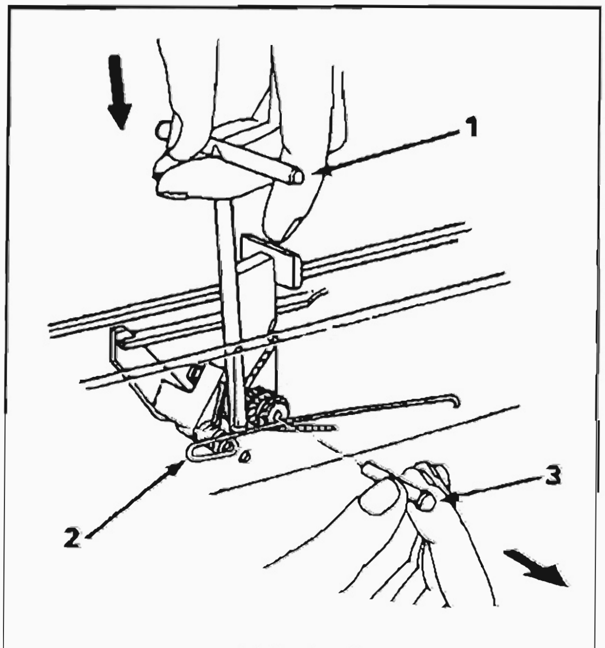


FIG. F.1.18

REMOVAL OF HAMMER AXIS PIN

1. Tool, Disconnector Spring.
2. Spring, Disconnector.
3. Pin, Axis, Hammer.

19. Remove the hammer complete with the hammer spring through the opening in the rear of the receiver. See Fig. F.1.19.

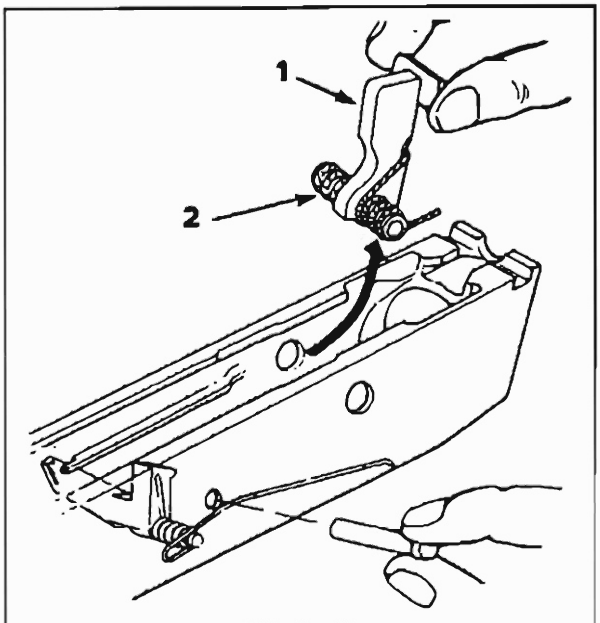


FIG. F.1.19

REMOVAL OF HAMMER AND SPRING

1. Hammer
2. Spring, Hammer.

20. Withdraw the disconnector axis pin and remove the disconnector and the disconnector spring. See Fig. F.1.20.

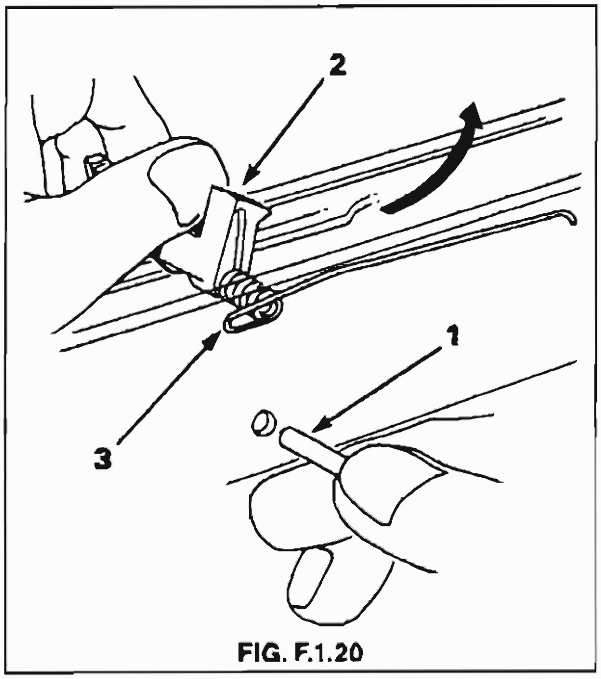


FIG. F.1.20

REMOVAL OF DISCONNECTOR ASSEMBLY

1. Pin, Axis.
2. Disconnector.
3. Spring, Disconnector.

ASSEMBLY OF TRIGGER MECHANISM:

21. Assemble in reverse order of stripping.

SUB-SECTION F.1

CHAPTER 4

INSPECTION PROCEDURE

INTRODUCTION:

WARNING:
Before starting an inspection, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty, and check that no ammunition is in a position to be introduced.

1. Inspection of the weapon is of the utmost importance. Thorough, systematic inspection at regular intervals is the best insurance against an unexpected breakdown at the critical moment when maximum performance is desired.

2. Inspection is for the purpose of determining the condition of the weapon, whether repairs are required, and the remedies necessary to ensure serviceability and proper functioning. Its immediate aim is trouble-prevention, which includes:

   a. Preventative maintenance.

   b. Discovering evidence of improper treatment received before delivery.

   c. Determining when replacement of parts are necessary due to normal wear or defects.

INSPECTION OF TRIGGER MECHANISM COMPONENTS:

3. Ensure that all components are free from burrs, or cracks.

4. Ensure that all holes are free from obstruction.

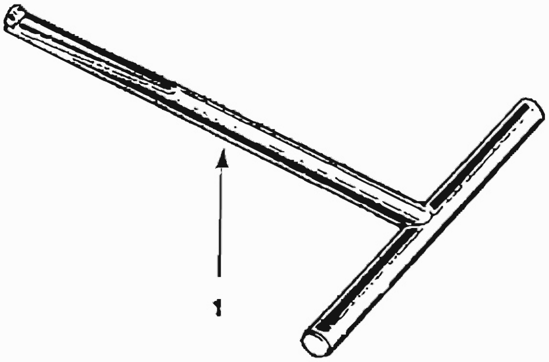
5. Ensure that all axis pins are free from wear and damage.

6. Ensure that springs are not broken or kinked.

7. Ensure that trigger, sear, hammer and disconnector bents are free from burrs, are not worn or damaged.

8. Ensure that the dimple on change lever RH is not worn or damaged.

9. Ensure that change lever RH is securely rivetted to body lever.



ITEM	TOOL NO.	DESCRIPTION	REPAIR LINE		
			1	2	4
1	356/06501/5000/▽/06	Tool, Disconnector Spring	X	X	X

SECTION G

BUTT ASSEMBLY GROUP

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SECTION G

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SUB-SECTION G.1

CHAPTER 1

BRIEF DESCRIPTION

INTRODUCTION:

1. The butt assembly is secured to receiver by means of loctite around bracket butt boss, and then a retaining pin. The butt is able to be locked in either the extended or folded positions by means of a spring loaded locking mechanism.

2. There are two types of butt assemblies of similar design, the difference being in the type of material used. One is of lightweight metal and the other is of fibre-glass and nylon.

3. The butt assembly consists of the following components as illustrated in Fig. G.1.1.

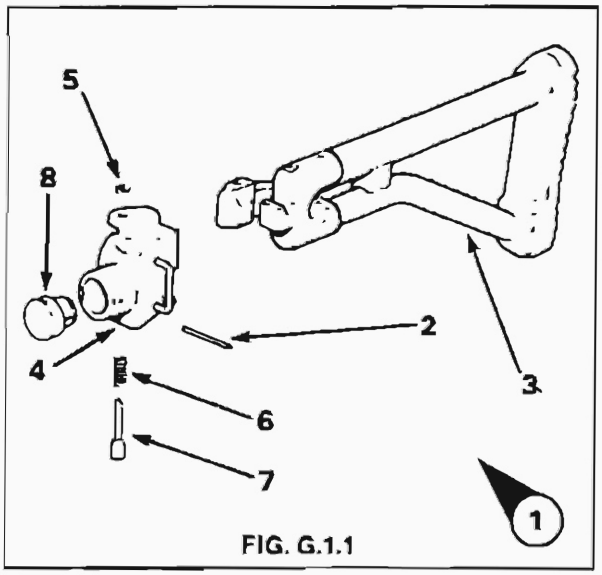

FIG. G.1.1

BUTT ASSEMBLY

1. Butt Assembly.
2. Pin, Fixing.
3. Butt.
4. Base, Butt.
5. Ring, Retaining.
6. Spring.
7. Pin, Connecting.
8. Nylon Buffer.

SUB-SECTION G.1

CHAPTER 2

FAULT FINDING, DIAGNOSTIC AND CORRECTIVE PROCEDURE

INTRODUCTION:

WARNING:
Before starting with fault finding, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty and check that no ammunition is in a position to be introduced.

SERIAL	FAULT	REMEDY
1	Bent butt	Straighten or replace
2	Loose pins (fixing pin or connecting pin)	Replace
3	Cracks/Sheared components	Replace
4	Brackets butt loose in receiver	Repair
5	Spring broken	Replace
6	Worn components	Replace
7	Burrs	Remove by filing or stoning
8	Damaged or worn nylon buffer	Replace

CHAPTER 3

STRIPPING AND ASSEMBLING PROCEDURE

INTRODUCTION:

WARNING:
Before starting the stripping procedure, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty, and check that no ammunition is in position to be introduced.

STRIPPING:

1. Remove cover, return spring assembly and breech mechanism.

BUTT ASSEMBLY FROM RECEIVER:

2. Clamp a suitable drift in a vice and position bracket butt over the top of drift so that head of connecting pin rests on top of drift. Press down on bracket butt until retaining ring can be removed from pin with a screwdriver or similar tool. Remove pin, spring and butt assembly. See Fig. G.1.2 and Fig. G.1.3.

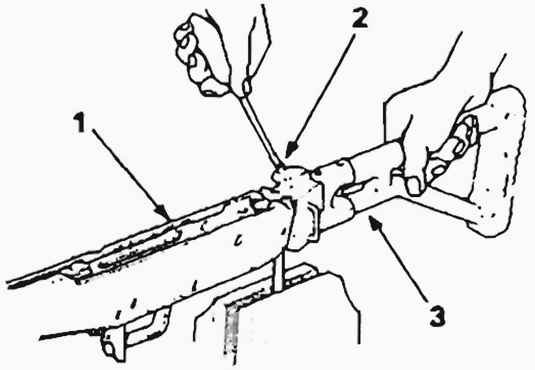

FIG. G.1.2

REMOVING BUTT ASSEMBLY

1. Receiver.
2. Ring, Retaining.
3. Butt Assembly.

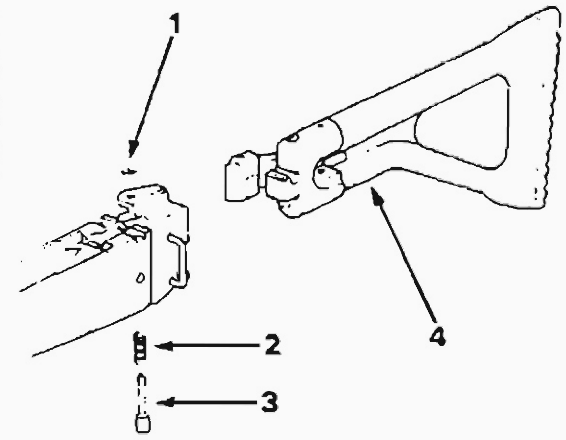

FIG. G.1.3

REMOVING BUTT ASSEMBLY FROM RECEIVER (CONT)

1. Ring, Retaining.
2. Spring.
3. Pin, Connecting.
4. Butt Assembly.

BRACKET BUTT FROM RECEIVER:

3. Clamp receiver in a vice. Drive out fixing pin securing bracket butt to receiver using a 5,8 mm diameter drift and hammer, and remove bracket butt. If difficulty is experienced in breaking the loctite seal between bracket butt and receiver, heat the assembly gradually until bracket butt can be removed. See Fig. G.1.4.

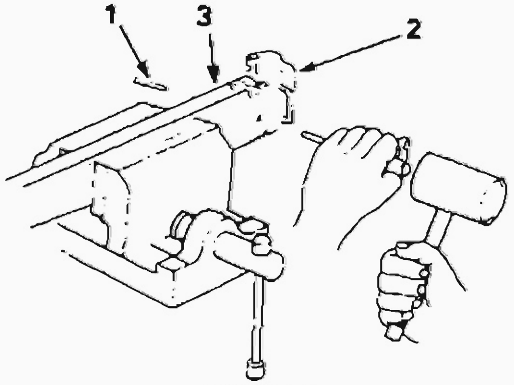

FIG. G.1.4

REMOVING BUTT BRACKET FROM RECEIVER

1. Pin, Fixing.
2. Bracket Butt.
3. Receiver.

NYLON BUFFER FROM BRACKET BUTT:

4. The nylon buffer can be pulled out of the bracket butt by hand. The nylon buffer may be damaged or worn at the top edge. This is the contact surface against which the rear of the bolt hit during the rearward movement of the recoiling parts. To rectify remove the nylon buffer, rotate it through 180° and assemble. See Fig. G.1.5.

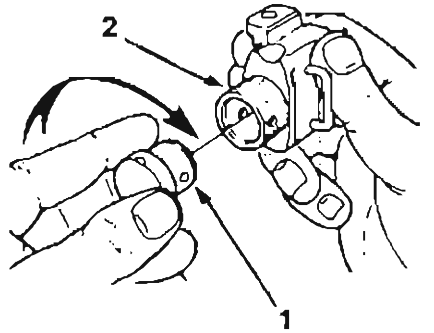

FIG. G.1.5

REMOVING NYLON BUFFER

1. Nylon Buffer.
2. Bracket Butt.

ASSEMBLING:

5. Assemble in the reverse order of stripping.

NOTES ON ASSEMBLING:

6. Ensure that the mating parts, i.e. boss on bracket butt and the hole in receiver are free from loctite used on prior assembly.

7. Apply Loctite Primer 'T' to both mating surfaces and allow to dry.

8. Apply Loctite compound 601 to both mating surfaces and immediately insert the boss on the bracket butt into the recess in the receiver housing.

SUB-SECTION G.1

CHAPTER 4

INSPECTION PROCEDURE

INTRODUCTION:

WARNING:
Before starting an inspection, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty, and check that no ammunition is in position to be introduced.

1. Inspection of the weapon is of the utmost importance. Thorough, systematic inspection at regular intervals is the best insurance against an unexpected breakdown at the critical moment when maximum performance is desired.

2. Inspection is for the purpose of determining the condition of the weapon, whether repairs are required, and the remedies necessary to ensure serviceability and proper functioning. Its immediate aim is trouble prevention, which includes:

    a. Preventative maintenance.

    b. Discovering evidence of improper treatment received before delivery.

    c. Determining when replacement of parts are necessary due to normal wear or defects.

INSPECTION OF BUTT ASSEMBLY COMPONENTS:

3. Ensure that the compression spring is free from kinks.

4. Ensure that the connecting pin is free from burrs and is not damaged.

5. Ensure that retaining ring groove in connecting pin is free from burrs and is not damaged.

6. Ensure that retaining pin is free of burrs and is not damaged.

7. Ensure that holes in bracket butt are not worn or burred.

8. Ensure that butt is not bent or distorted.

9. Ensure that the pin spring securing the butt tubes to the butt hinge is secure.

10. Ensure that retaining ring is not distorted or cracked.

11. Ensure that the nylon buffer is not worn or damaged.

SUB-SECTION G.1

CHAPTER 5

REPAIR PROCEDURE

INTRODUCTION:

WARNING:
Before starting any repair, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty, and check that no ammunition is in position to be introduced.

REPAIRS TO LOOSE BUTT ASSEMBLY:

1. If butt assembly is loose on receiver, remove it from receiver. Clean bracket butt boss and hole in receiver of loctite. Inspect retaining pin hole in both components for ovality or wear.

2. Replace any worn components and assemble, ensuring to apply loctite compound 601 to both mating surfaces, i.e. bracket butt boss and hole in receiver.

SECTION H

BIPOD ASSEMBLY GROUP

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SUB-SECTION H.1

CHAPTER 1

BRIEF DESCRIPTION

INTRODUCTION:

1. The bipod assembly is used to steady the weapon during firing operations. When not in use, the spring loaded bipod legs can be closed and the whole assembly pivoted rearwards and locked within the hand guard assembly. The all metal bipod assembly is attached to the weapon by a headed, grooved pin and a circlip. The bipod legs have feet attached at their lower ends and the underside surfaces of the feet are slotted to provide extra grip. The upper end of the legs are supported in the bipod head and both legs can pivot on their axis points. The spring situated between the legs keeps the legs in an open and locked position. The axis pin between the bipod head and the bipod connector allows the bipod assembly to be moved from the stowed position to the 'in use' position and vice versa.

2. The bipod assembly consists of the following components, as illustrated in Fig.H.1.1.

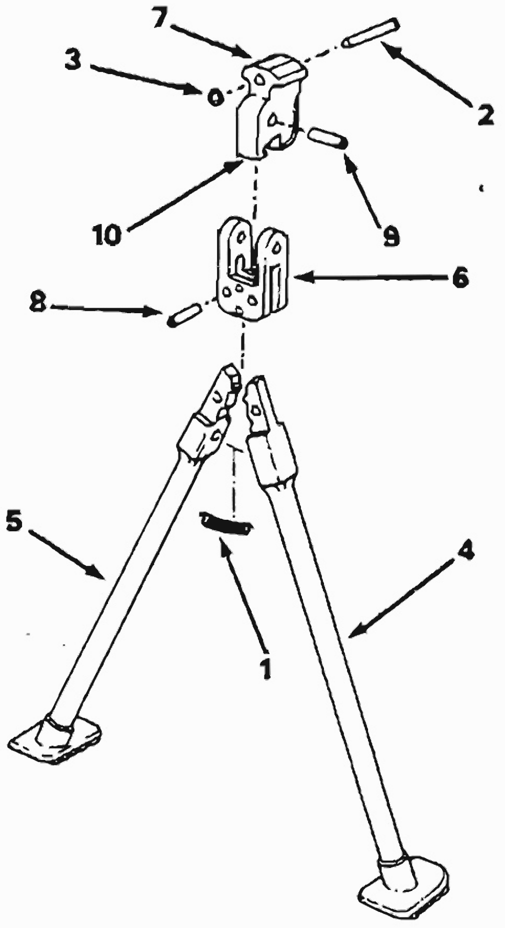

FIG. H.1.1

BIPOD ASSEMBLY

1. Spring.
2. Pin, Headed.
3. Circlip.
4. Leg, Left Hand.
5. Leg, Right Hand.
6. Head, Bipod.
7. Connector, Bipod.
8. Pin, Axis, Leg.
9. Pin, Axis, Bipod Head and Connector.
10. Lip, Wire Cutting.

SUB-SECTION H.1

CHAPTER 2

FAULT FINDING, DIAGNOSTIC AND CORRECTIVE PROCEDURE

INTRODUCTION:

WARNING:
Before starting with fault finding, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty and check that no ammunition is in a position to be introduced.

SERIAL	FAULT	REMEDY
1	Bent leg	Straighten or replace
2	Broken leg	Replace
3	Damaged shoe	Straighten or replace leg assembly
4	Broken or weak spring	Replace
5	Cracked bipod head	Replace
6	Cracked bipod connector	Replace
7	Damaged or loose axis pin	Replace
8	Burrs	Remove by filing or stoning

SUB-SECTION H.1

CHAPTER 3

STRIPPING AND ASSEMBLING PROCEDURE

INTRODUCTION:

WARNING:
Before starting with the stripping procedure, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty, and check that no ammunition is in position to be introduced.

STRIPPING:

1. Remove bipod assembly by removing the circlip from headed pin, withdraw pin and separate bipod from gas block. See Fig. H.1.2.

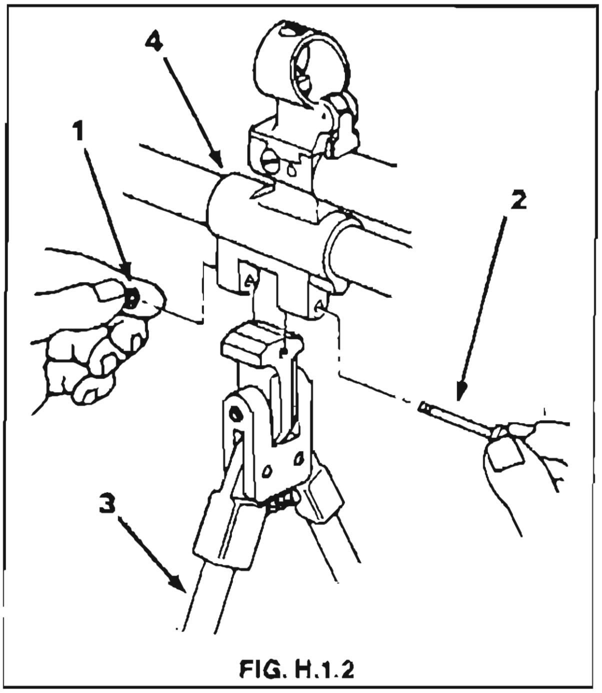

FIG. H.1.2

REMOVAL OF BIPOD

1. Circlip.
2. Headed Pin.
3. Bipod.
4. Gas Block.

2. Using a screwdriver or similar implement, remove the spring from between the bipod legs. See Fig. H.1.3.

NOTE:
The spring is the only component that can be removed under stripping. The rest of the assembly is rivetted together and would normally only be stripped for repair purposes.

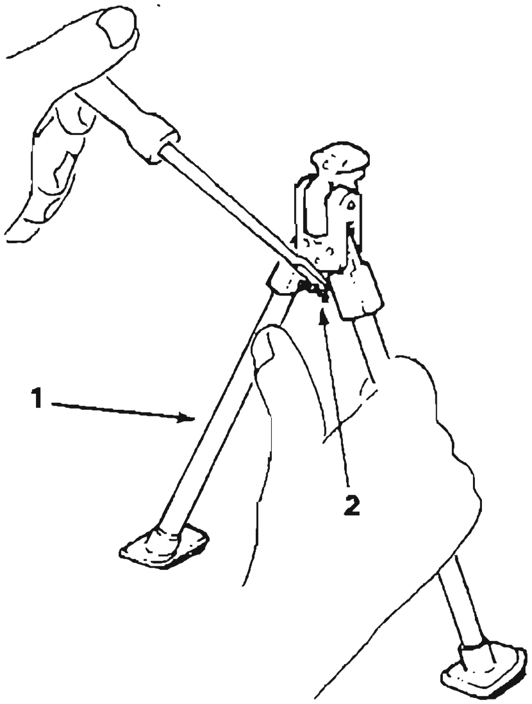

FIG. H.1.3

REMOVAL OF SPRING

1. Bipod Assembly.
2. Spring, Bipod.

ASSEMBLING:

3. Assemble in the reverse order of stripping.

SUB-SECTION H.1

CHAPTER 4

INSPECTION PROCEDURE

INTRODUCTION:

WARNING:
Before starting an inspection, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty, and check that no ammunition is in position to be introduced.

1. Inspection of the weapon is of the utmost importance. Thorough, systematic inspection at regular intervals is the best insurance against an unexpected breakdown at the critical moment when maximum performance is desired.

2. Inspection is for the purpose of determining the condition of the weapon, whether repairs are required, and the remedies necessary to ensure serviceability and proper functioning. Its immediate aim is trouble-prevention, which includes:

   a. Preventative maintenance.

   b. Discovering evidence of improper treatment received before delivery.

   c. Determining when replacement of parts are necessary due to normal wear or defects.

INSPECTION OF BIPOD ASSEMBLY COMPONENTS:

3. Ensure that all components are free from burrs, bends, cracks and distortion.

4. Ensure that axis holes in both legs, head and connector are not damaged or worn.

5. Ensure that rivets are not loose.

6. Ensure that bipod legs and head rotates on its axis when assembled.

SUB-SECTION H.1

CHAPTER 5

REPAIR PROCEDURE

INTRODUCTION:

WARNING:
Before starting any repairs, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty, and check that no ammunition is in position to be introduced.

REPAIRS:

NOTE:
When carrying out repairs to the bipod assembly which necessitates stripping of the rivetted assembly, heat the bipod head area to soften the axis pins to enable them to be drilled and then driven out. Before assembling the bipod, reharden all components that were previously softened and apply a suitable protective surface coating.

REPLACEMENT OF BIPOD LEGS.

1. Remove bipod assembly by removing the headed pin.
2. Support the bipod assembly and drill off the heads of the leg axis pins using a 4,93 mm diameter twist drill. Drive out the remains of the pins, using a suitable punch and hammer. Fit new axis pins on assembly and form heads at both ends of axis pins. See Fig. H.1.4 and H.1.6.

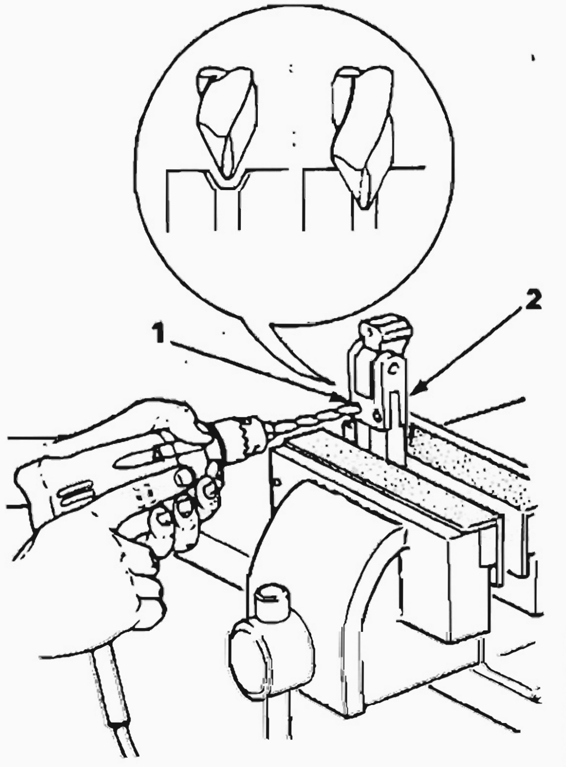

FIG. H.1.4

REMOVING LEG AXIS PIN

1. Pin, Axis, Leg.
2. Bipod Assembly.

REPLACEMENT OF CONNECTOR:

3. Support the assembly and drill off the head of the bipod axis pin using a 5.93 mm diameter twist drill. Remove the remains of the axis pin using a suitable punch and a hammer. Fit serviceable connector and new axis pin and form ends on axis pin. See Fig. H.1.5.

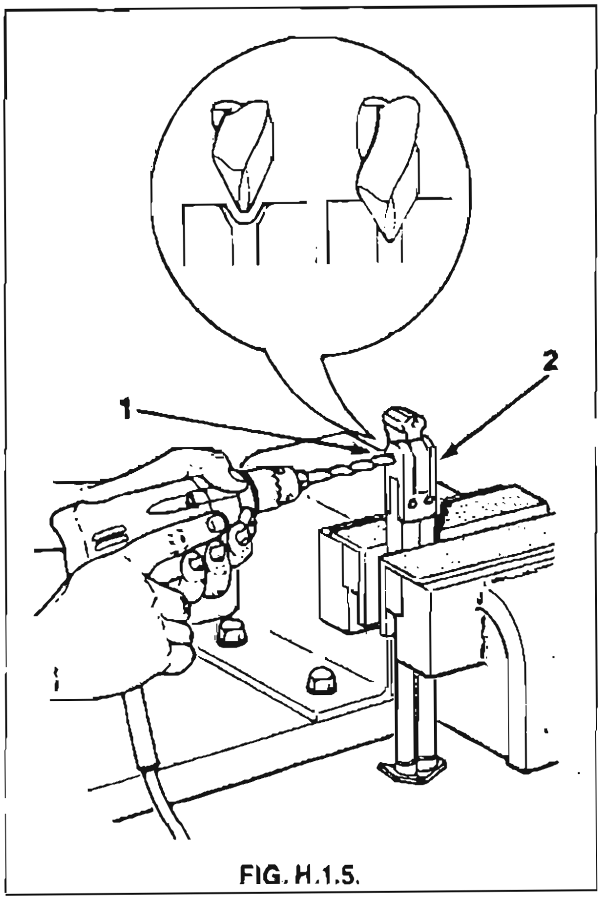

FIG. H.1.5.

REMOVING BIPOD HEAD AND CONNECTOR AXIS PIN

1. Pin, Axis, Bipod Head and Connector.
2. Bipod Assembly.

REPLACEMENT OF HEAD:

4. To replace the bipod head remove the legs in accordance with paragraph 2 above and remove the connector in accordance with paragraph 3 above. Refit legs and connector to serviceable head in accordance with paragraphs 2 and 3 above. See Fig. H.1.6.

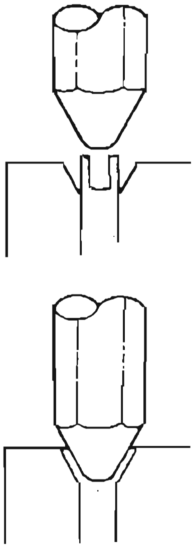

FIG. H.1.6

PIN AXIS FINISHING

SECTION I

SIGHT GROUP

SECTION CONTENTS LIST

SECTION I

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CHAPTER 4 INSPECTION PROCEDURE I.1-6

I.2 REAR SIGHT ASSEMBLY

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CHAPTER 3 STRIPPING AND ASSEMBLY PROCEDURE I.2-3
CHAPTER 4 INSPECTION PROCEDURE I.2-5

SUB-SECTION I.1

CHAPTER 1

BRIEF DESCRIPTION

INTRODUCTION

1. The front sight assembly is located in a dovetail on the gas block and has provision for lateral and vertical adjustment by means of two adjusting screws and a front sight, respectively.

2. The assembly has a spring loaded night sight containing a Beta light which is a radio-active mixture of phoshor and tritium, and emits a low density light. The night sight system which includes the rear sight is set for 100 metre range.

3. The front sight assembly consists of the following components, as illustrated in Fig. I.1.1.

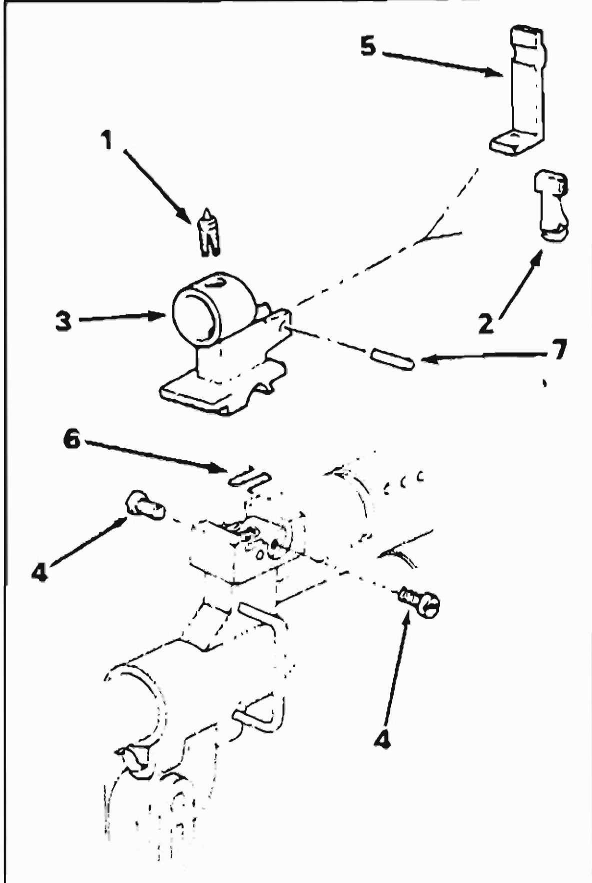

FIG. I.1.1

FRONT SIGHT ASSEMBLY

1. Sight, Front.
2. Sight, Night, Front.
3. Base, Sight.
4. Screw, Adjusting.
5. Spring, Sight, Night.
6. Spring, Front Sight Base.
7. Pin, Spring.

SUB-SECTION 1.1

CHAPTER 2

FAULT FINDING, DIAGNOSTIC AND CORRECTIVE PROCEDURE

INTRODUCTION:

WARNING:
Before starting with fault finding, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty, and check that no ammunition is in a position to be introduced.

SERIAL	FAULT	REMEDY
1	Cracks or distorted components	Replace
2	Broken/weak springs	Replace
3	Low intensity/broken beta lights	Replace
4	Damaged adjusting screws	Repair or replace
5	Burrs	Remove by filing or stoning

SUB-SECTION I.1

CHAPTER 3

STRIPPING AND ASSEMBLING PROCEDURE

INTRODUCTION:

WARNING:
Before starting the stripping procedure, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty and check that no ammunition is in position to be introduced.

STRIPPING:

1. Remove the front sight assembly from the weapon by screwing out the two adjusting screws, and sliding the sight base out of the grooves in the gas block. Lift and remove spring sight base. See Fig. I.1.2

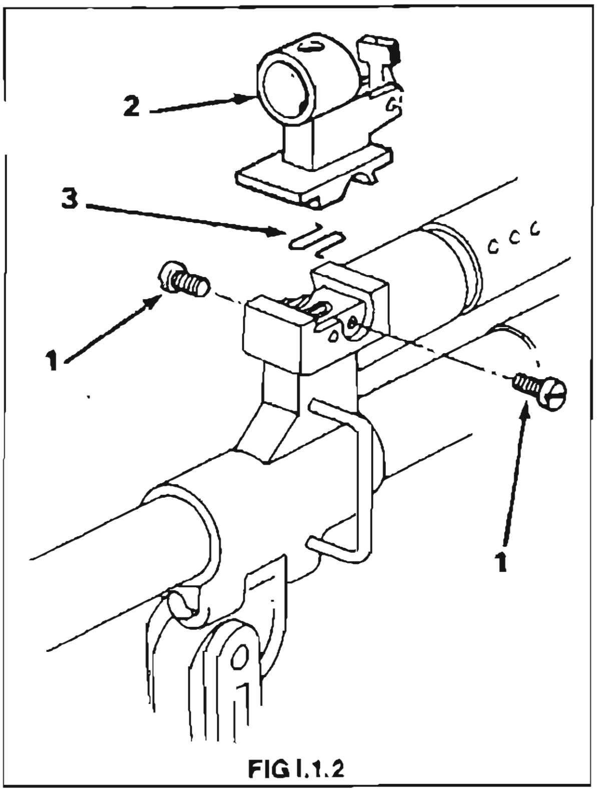

FIG I.1.2

REMOVAL OF FRONT SIGHT ASSEMBLY

1. Screw, Adjusting.
2. Base, Sight.
3. Spring, Front, Sight, Base.

2. Withdraw the night sight spring from the sight base. Drive out the spring pin and withdraw the night sight. Unscrew and remove the front sight with tool stripping pin and key. See Fig. I.1.3

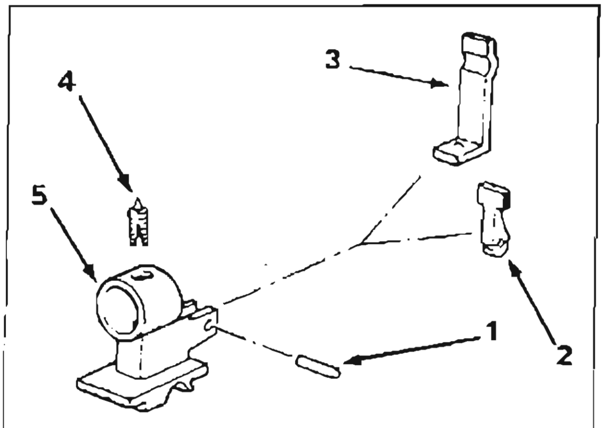

FIG. I.1.3.

STRIPPING OF FRONT SIGHT ASSEMBLY

1. Pin, Spring.
2. Sight, Night Front.
3. Spring, Night Sight.
4. Front, Sight.
5. Base, Sight.

ASSEMBLING:

3. Assemble in the reverse order of stripping.

NOTE:
Zero sights after assembly according to Sub-Section M2.

SUB-SECTION I.1

CHAPTER 4

INSPECTION PROCEDURE

INTRODUCTION:

WARNING:
Before starting an inspection, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty, and check that no ammunition is in a position to be introduced.

1. Inspection of the weapon is of the utmost importance. Thorough, systematic inspection at regular intervals is the best insurance against an unexpected breakdown at the critical moment when maximum performance is desired.

2. Inspection is for the purpose of determining the condition of the weapon, whether repairs are required, and the remedies necessary to ensure serviceability and proper functioning. Its immediate aim is trouble-prevention, which includes:

    a. Preventative maintenance.

    b. Discovering evidence of improperr treatment received before delivery.

    c. Determining when replacement of parts are necessary due to normal wear or defects.

INSPECTION OF SIGHT ASSEMBLY COMPONENTS:

3. Ensure that all Beta light in the front night sight is secure, not broken and emits a low density light when placed in a darkened room.

4. Ensure that the night sight spring is not deformed or broken.

5. Ensure that sight base is not damaged or cracked.

6. Ensure that adjusting screws are not damaged or serrations worn.

7. Ensure that spring sight base is not damaged.

8. Ensure that front sight is not bent or damaged.

9. Ensure that the spring for night sight locks the sight positively in both the up and down positions.

CHAPTER 1

BRIEF DESCRIPTION

INTRODUCTION:

1. The rear sight assembly is fitted on the dust cover assembly. The daylight sight is adjustable only in the sense that there are two definite range positions, i.e. from 300 metres and 500 metres. The rear night sight also fitted on dust cover contains two Beta lights which are a mixture of phosphor and tritium which emits a low density light. The rear night sight is positioned in the up-position when in use and lowered when not, and can also act as a battle sight when necessary.

2. The rear sight assembly consists of the following components, as illustrated in Fig. 1.2.1.

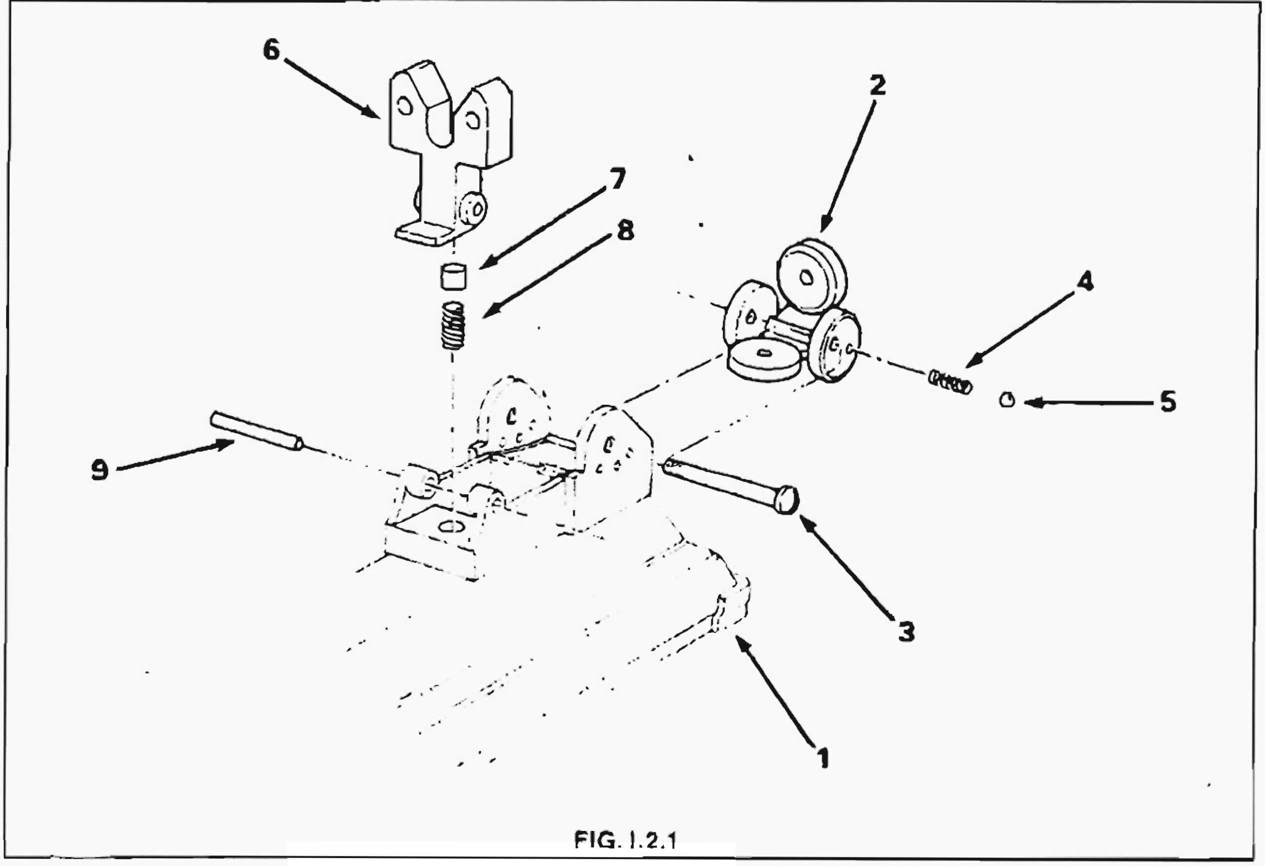

FIG. 1.2.1

REAR SIGHT ASSEMBLY

1. Cover Assembly.
2. Sight, Rear.
3. Screw, Pivot.
4. Spring.
5. Ball, Bearing.
6. Sight, Assembly, Night Rear.
7. Plunger.
8. Spring.
9. Pin, Spring.

SUB-SECTION I.2

CHAPTER 2

FAULT FINDING, DIAGNOSTIC AND CORRECTIVE PROCEDURE

INTRODUCTION:

WARNING:
Before starting with fault finding, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty, and check that no ammunition is in a position to be introduced.

SERIAL	FAULT	REMEDY
1	Cracks or distorted components	Replace
2	Broken/weak springs	Replace
3	Low intensity/broken Beta Lights	Replace
4	Burrs	Remove by filing or stoning

SUB-SECTION 1.2

CHAPTER 3

STRIPPING AND ASSEMBLING PROCEDURE

INTRODUCTION

WARNING:
Before starting with stripping and assembling, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty and check that no ammunition is in position to be introduced.

1. Remove cover from weapon.
2. Using a suitable file, remove the peened metal from the end of pivot screw supporting rear sight and unscrew pivot screw. Place a finger over pivot screw hole and slightly lift rear sight to allow ball bearing to exit through pivot screw hole. Release finger gently as the ball bearing will be under pressure from the spring behind it, and remove ball bearing. Remove rear sight from cover and then remove spring from sight. See Fig. 1.2.2.

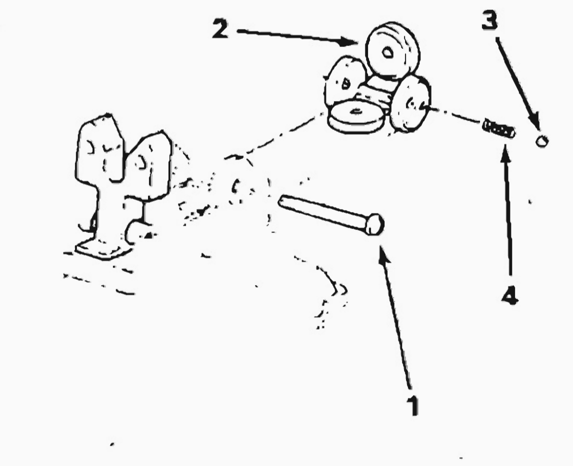

FIG. 1.2.2.

DISMANTLING DAYLIGHT SIGHT ASSEMBLY

1. Screw, Pivot.
2. Rear, Sight.
3. Ball Bearing.
4. Spring.

3. Using a suitable punch and a hammer, drive out spring pin retaining night sight. Push right down and lift it out, taking care that spring does not eject plunger. Remove spring and plunger. See Fig. 1.2.3.

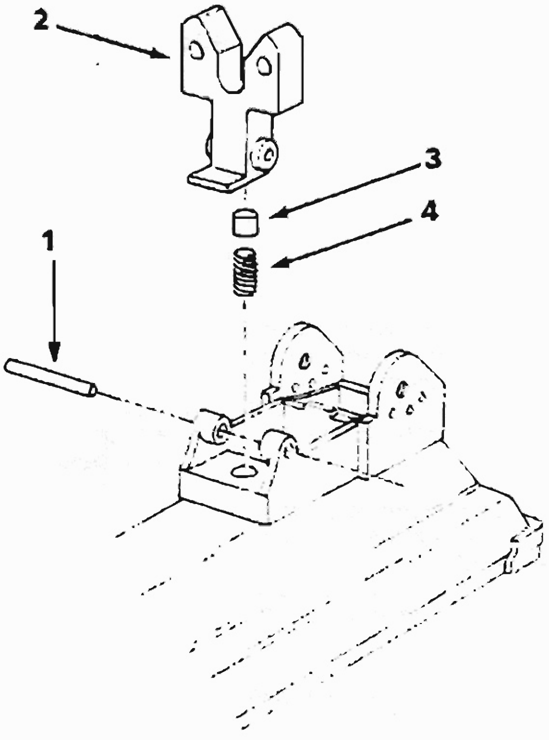

FIG. I.2.3.

DISMANTLING OF NIGHT/BATTLE SIGHT

1. Pin, Spring.
2. Sight, Night/Battle.
3. Plunger.
4. Spring.

ASSEMBLING:

4. Assemble in the reverse order of stripping.

NOTE:
When assembling rear sight assembly fit a new pivot screw and peen the threaded end of the screw after assembly to prevent the pivot screw working loose.

CHAPTER 4

INSPECTION PROCEDURE

INTRODUCTION:

WARNING:
Before starting an inspection, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty, and check that no ammunition is in a position to be introduced.

1. Inspection of the weapon is of the utmost importance. Thorough, systematic inspection at regular intervals is the best insurance against an unexpected breakdown at the critical moment when maximum performance is desired.

2. Inspection is for the purpose of determining the condition of the weapon, whether repairs are required, and the remedies necessary to ensure serviceability and proper functioning. Its immediate aim is trouble-prevention, which includes:

    a. Preventative maintenance.

    b. Discovering evidence of improper treatment received before delivery.

    c. Determining when replacement of parts are necessary due to normal wear or defects.

INSPECTION OF REAR SIGHT ASSEMBLY COMPONENTS:

3. Ensure that all Beta light in the rear night sight are secure, not broken and emits a low density light when placed in a darkened room.

4. Ensure that plunger and ball bearing is free from burrs.

5. Ensure that springs are not broken or kinked.

6. Ensure that rear sight is not cracked, damaged or distorted.

7. Ensure that sight base is secured on dust cover.

8. Ensure that pivot screw and pins are not damaged or distorted.

9. Ensure that spring for night sight locks tight positively in both up and down positions.

10. Ensure that rear sight can be adjusted to 300 or 500 metres.

11. Ensure that pivot screw is peened after rear sight is assembled to cover.

SECTION J

MAGAZINE GROUP

SECTION CONTENTS LIST

SECTION J

SUB-SECTION	DESCRIPTION	PAGE
J.1	MAGAZINE ASSEMBLY	
CHAPTER 1	BRIEF DESCRIPTION	J.1-2
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CHAPTER 3	STRIPPING AND ASSEMBLY PROCEDURE	J.1-6
CHAPTER 4	INSPECTION PROCEDURE	J.1-11
CHAPTER 5	SPECIAL WORKSHOP TOOLS	J.1-12

SUB-SECTION J.1

CHAPTER 1

BRIEF DESCRIPTION

INTRODUCTION:

1. The magazine for the R4 Assault Rifle is available in three sizes,12, 35 and 50 rounds capacity. The 12 round magazine is used for grenade launching only and must contain type M19S grenade rounds. The 35 and 50 round magazines are for normal operation use. Each of the different size magazine assemblies consists of a two part sheet metal ribbed casing spot welded together. The magazine opening is reinforced with sheet metal stiffeners. See Fig. J.1.1

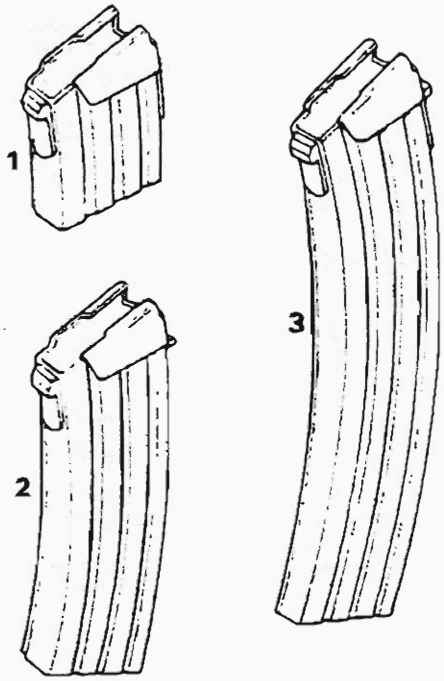


FIG. J.1.1

MAGAZINE ASSEMBLIES

1. Magazine (12 Rounds) Balistic.
2. Magazine (30 Rounds)
3. Magazine (50 Rounds)

2. The magazine assemblies consists of the following components as illustrated in Figs. J.1.2, J.1.3 and J.1.4.

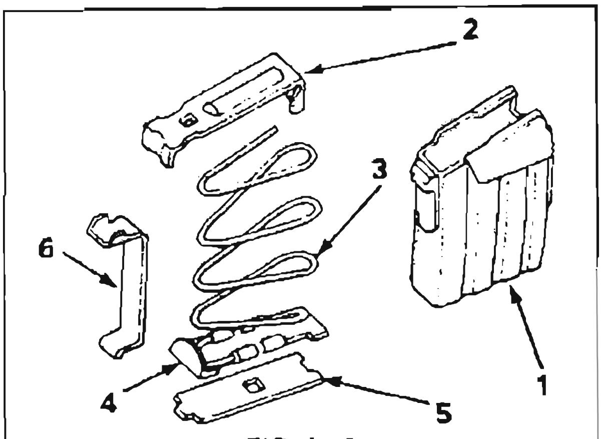


FIG. J.1.2

MAGAZINE ASSEMBLY (12 ROUNDS)

1. Casing, Magazine.
2. Follower, Magazine.
3. Spring, Magazine.
4. Platform, Spring.
5. Plate, Bottom.
6. Plate Stop, Magazine.

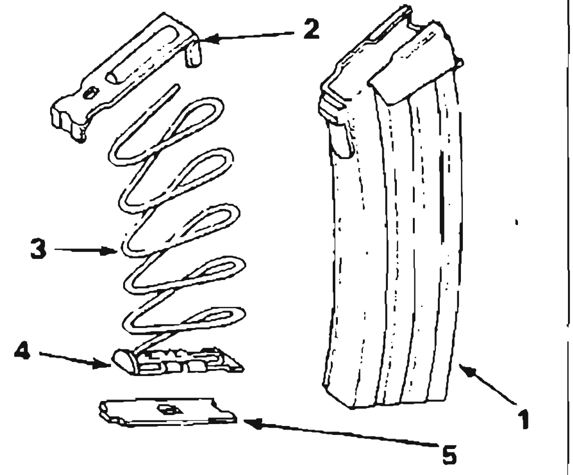


FIG. J.1.3

MAGAZINE ASSEMBLY (35 ROUNDS)

1. Casing, Magazine.
2. Follower, Magazine.
3. Spring, Magazine.
4. Platform, Spring.
5. Plate, Bottom.

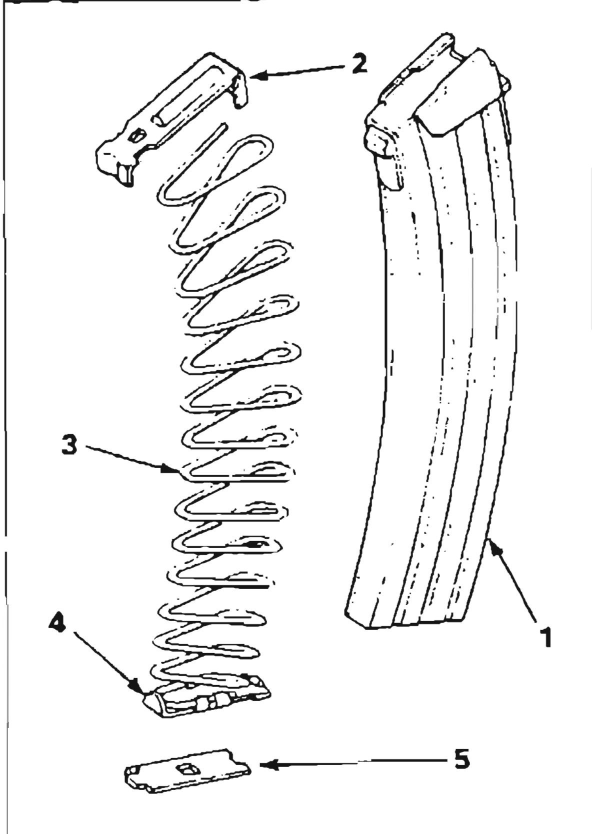


FIG. J.1.4

MAGAZINE ASSEMBLY (50 ROUNDS)

1. Casing, Magazine.
2. Follower, Magazine.
3. Spring, Magazine.
4. Platform, Spring.
5. Plate, Bottom.

SUB-SECTION J.1

CHAPTER 2

FAULT FINDING, DIAGNOSTIC AND CORRECTIVE PROCEDURES

INTRODUCTION:

WARNING:
Before starting with fault finding, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty and check that no ammunition is in a position to be introduced.

SERIAL	FAULT	REMEDY
1	Distorted or bent casing	Replace
2	Sheared locating lug	Replace casing
3	Broken or kinked spring	Replace
4	Bent platform	Straighten or replace spring assy
5	Dented casing or bottom plate	Repair
6	Damaged follower	Replace
7	Burrs	Remove by filing or stoning

SUB-SECTION J.1

CHAPTER 3

STRIPPING AND ASSEMBLING PROCEDURES

INTRODUCTION:

WARNING:
Before starting with the stripping procedure, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty and check that no ammunition Is in position to be introduced.

UNLOADING OF MAGAZINE:

> *NOTE:*
> In the event that the magazine contains live rounds, they will have to be removed before the magazine can be stripped.

REMOVE MAGAZINE FROM WEAPON:

1. Remove magazine from weapon. Hold the magazine in one hand with the magazine follower and round uppermost, with the rounds facing away from the body. Using the thumb of the other hand, depress the rounds forward one at a time out of the magazine until the magazine is empty.

STRIPPING:

2. Hold the magazine in one hand, base uppermost. Using a screwdriver or similar implement, depress catch on the spring platform below the recess in the bottom plate. See Fig. J.1.5

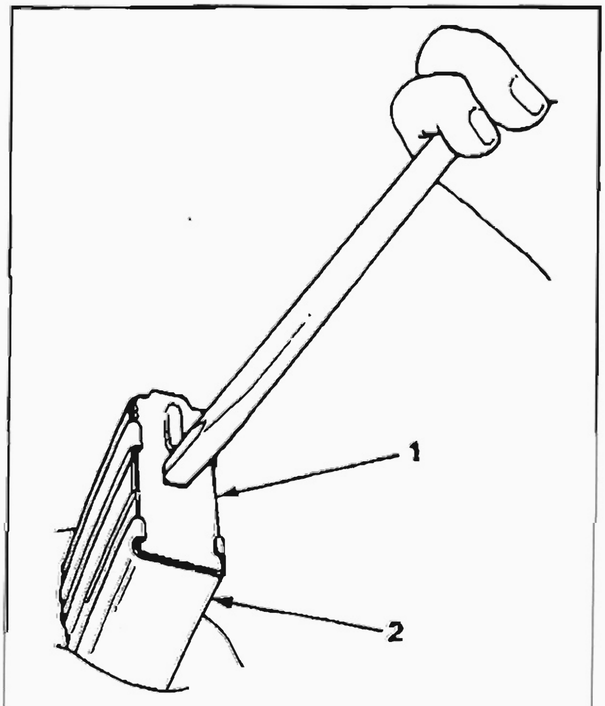


FIG. J.1.5

DEPRESSING CATCH ON SPRING PLATFORM

1. Plate, Bottom.
2. Base, Magazine.

3. Push the bottom plate forward until it stops. Apply pressure to the spring platform, with the thumb of the hand supporting the magazine, and continue to slide the bottom plate forward until it is free of the magazine. See Fig. J.1.6

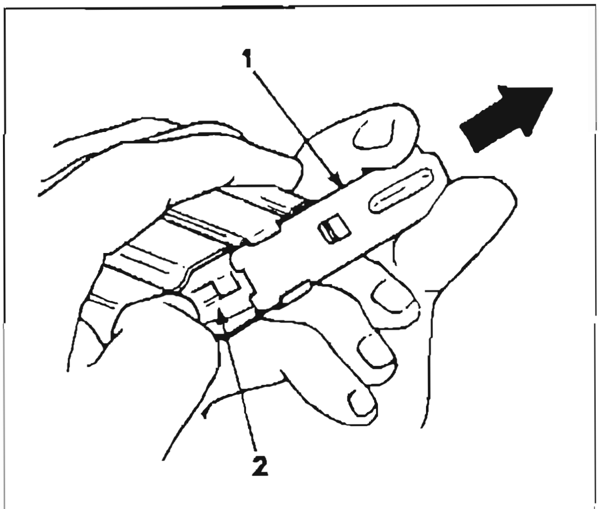


FIG. J.1.6

REMOVING BOTTOM PLATE

1. Plate, Bottom.
2. Platform, Spring.

4. Withdraw the spring platform, magazine spring and the follower which is joined to the other end of the spring. See Fig. J.1.7.

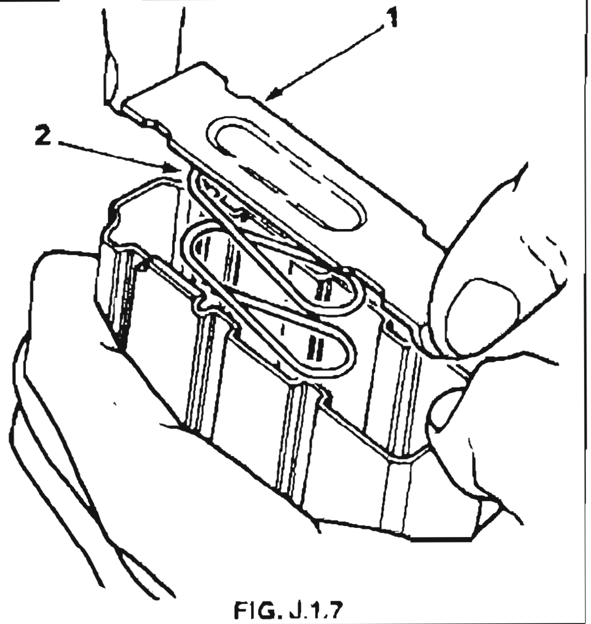


FIG. J.1.7

REMOVING SPRING ASSEMBLY FROM MAGAZINE

1. Platform, Spring.
2. Spring, Follower.

5. Remove the magazine follower from the spring by unlooping the spring through the retaining loop on the underside of the magazine follower. See Fig. J.1.8.

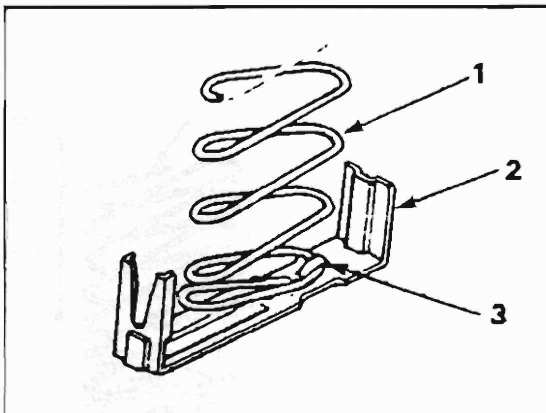


FIG. J.1.8

REMOVING MAGAZINE FOLLOWER FROM SPRING

1. Spring, Follower.
2. Platform, Spring.
3. Loop, Retaining.

6. Using a screwdriver or similar implement bend back the lugs on the platform and remove the spring. See Fig. J.1.9.

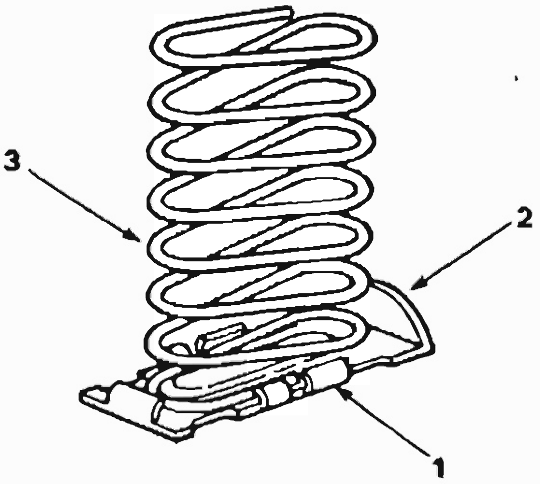


FIG. J.1.9

FOLLOWER SPRING AND PLATFORM

1. Lugs, Retaining.
2. Platform.
3. Spring, Follower.

ASSEMBLING:

7. Assemble in the reverse order of stripping.

NOTES ON ASSEMBLING:

8. Using the special positioning tool locate the follower spring onto the platform and using a suitable punch and a hammer bend the lugs to retain the spring in position. See Fig. J.1.10.

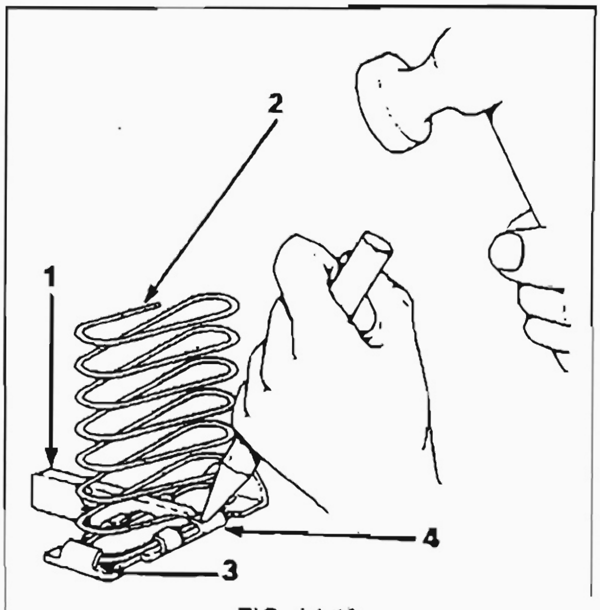


FIG. J.1.10

ASSEMBLING FOLLOWER SPRING TO PLATFORM

1. Tool, Positioning.
2. Spring, Follower.
3. Platform.
4. Lugs, Retaining.

9. When assembling the magazine follower to the spring ensure that it is fitted the right way around relative to the spring platform. See Fig. J.1.11.

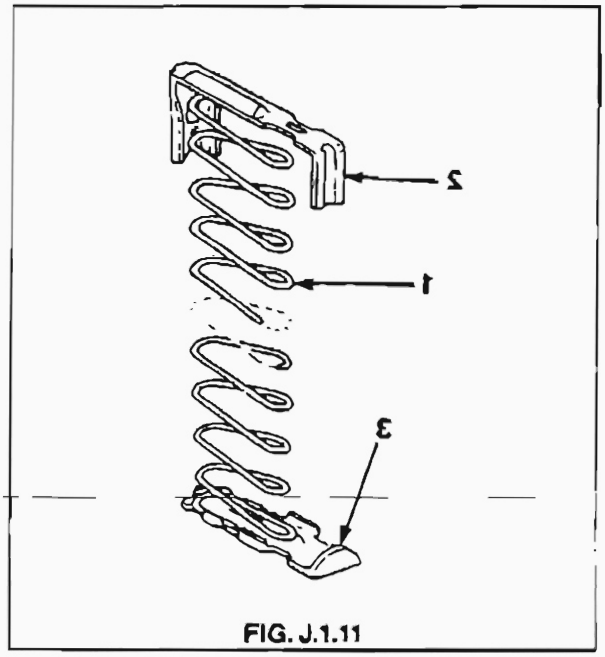


FIG. J.1.11

SPRING ASSEMBLY

1. Spring.
2. Follower, Magazine.
3. Platform, Spring

10. Due to its shape the spring platform will only fit into the magazine one way round. A visual inspection will quickly establish the correct way.

11. When assembling bottom plate to magazine ensure that the catch on the spring platform engages in the recess in the bottom plate. See Fig. J.1.12.

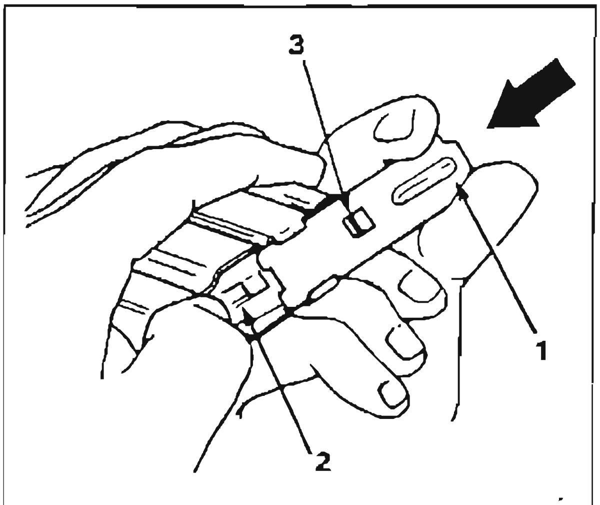


FIG. J.1.12

REFITTING BOTTOM PLATE TO MAGAZINE

1. Plate, Bottom.
2. Platform, Spring.
3. Recess.

12. Ensure that when magazine is assembled the follower and magazine spring funtions up and down, without binding.

CHAPTER 4

INSPECTION PROCEDURE

INTRODUCTION:

WARNING:
Before starting an inspection, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty, and check that no ammunition is in position to be introduced.

1. Inspection of the weapon is of the utmost importance. Thorough, systematic inspection at regular intervals is the best insurance against an unexpected breakdown at the critical moment when maximum performance is desired.

2. Inspection is for the purpose of determining the condition of the weapon, whether repairs are required, and the remedies necessary to ensure serviceability and proper functioning. Its immediate aim is trouble prevention, which includes:

   a. Preventative maintenance.

   b. Discovering evidence of improper treatment received before delivery.

   c. Determining when replacement of parts are necessary due to normal wear or defects.

INSPECTION OF MAGAZINE COMPONENTS:

3. Ensure that the magazine casing is free from dents, distortion, burrs, sharp edges and scratches.

4. Ensure that the stop plate (on 12 round type magazines) is securely attached to the inside of the magazine casing.

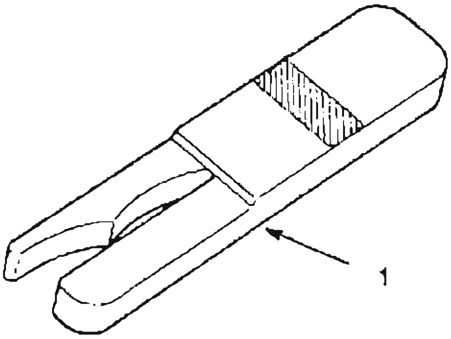
5. Ensure that the following spring is free from kinks and breaks and that it is securely fastenened to the spring platform.

6. Ensure that the spring platform is free from distortion, burrs and sharp edges.

7. Ensure that the bottom plate is free from distortion, burrs and sharp edges.

8. Ensure that the follower is free from distortion, burrs and sharp edges.

9. Ensure that when magazine is assembled the follower and magazine spring functions up and down, without binding.



ITEM	TOOL NO.	DESCRIPTION	REPAIR LINE 1 2 4
1	356/06510/5000/0/05	Tool, Positioning, Magazine Clip Spring	X X X

SECTION M

FUNCTIONING AND FIRE TEST

SECTION CONTENTS LIST

SECTION M

FUNCTIONING AND FIRE TEST GROUP

SUB-SECTION	DESCRIPTION	PAGE
M.1	FUNCTIONING AND FIRE TEST	M.1-1
M.2	ZEROING	M.2-1
M.3	FAULT FINDING, DIAGNOSTIC AND CORRECTIVE PROCEDURE	M.3-1
M.4	SPECIAL WORKSHOP TOOLS	M.4-1

SUB-SECTION M.1

FUNCTIONING AND FIRE TEST

INTRODUCTION:

WARNING:
Before starting an inspection, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty, and check that no ammunition is in a position to be introduced.

1. The weapon that has been repaired should be fire tested to ensure correct functioning. The weapon that fails to meet functioning and firing tests is to be corrected by adjustments or by replacement of defective components.

2. On completion of the firing tests the weapon is to be field stripped and all components thoroughly cleaned, inspected for serviceability and then assembled. Thereafter, hand function the weapon to ensure the functioning of assembled components.

FIRING TEST:

3. Prior to the firing test ensure that the barrel bore and chamber is clean, dry and mechanism is lightly lubricated. Hand function the weapon to ensure smooth operations of any new components fitted and the functioning of the mechanism.

4. The firing test shall be carried out on the weapons by firing from the bipod or out of a fixed mount.

5. The weapon must fire 35 rounds of which at least 10 rounds must be single shots and the remainder of the shots to be fired in short bursts, faultlessly. Any malfunction that may occur must be thoroughly investigated for the cause, before repeating the firing test with 70 rounds, fired in short bursts. The weapon must fire faultlessly. Refer to sub-section M3 for possible malfunctions.

6. After the weapon has completed the firing test, it is to be zeroed according to sub-section M2.Zeroing.

7. A barrel which has passed visual inspection and gauge examination is to be rejected when more than 5 out of 35 bullets, fired singly, produce an elongated (oval) hole more than 10mm long, when hitting a cardboard target at a distance of 50 metres.

8. This could happen to a barrel which has fired a large number of bullets continuously and without long pauses. This can cause the grooves in the bore to wear at the muzzle end.

SUB-SECTION M.2

ZEROING

INTRODUCTION:

WARNING:
Before starting with zeroing, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty, and check to see that no ammunition is in position to be introduced.

1. Zeroing the sights is an adjustment whereby the sight axis is aligned with barrel axis for a range of 250 metres. The front sight can be adjusted horizontally and vertically using the combined stripping pin and key tool. The sights can also be adjusted using a special Eliraz Optical Sight. The front sight adjusting points are illustrated in Fig. M.2.1.

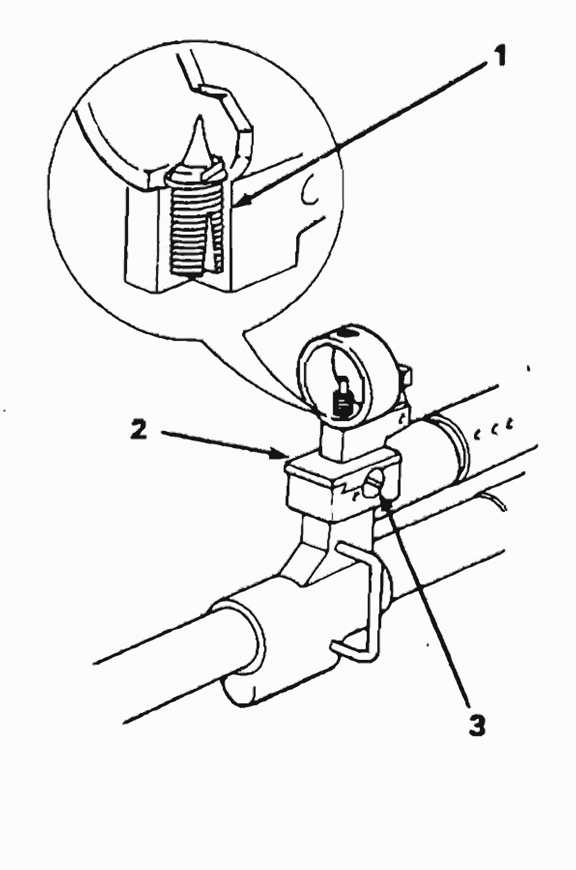


FIG. M.2.1

FRONT SIGHT ADJUSTING POINTS

1. Front Sight.
2. Base, Sight.
3. Screw, Adjusting.

ZEROING AND ACCURACY TEST:

2. For zeroing and accuracy test the weapon can either be fired from a fixed mount or bipod, with rear sight set at 300 metres and the target at 100 metres, firing 5 single rounds.

3. The mean point of impact (MPI) of all the shots must be placed in a rectangle of dimensions 180 mm high and 140 mm wide, with its centre 90 mm above aiming point. See Fig. M.2.2.

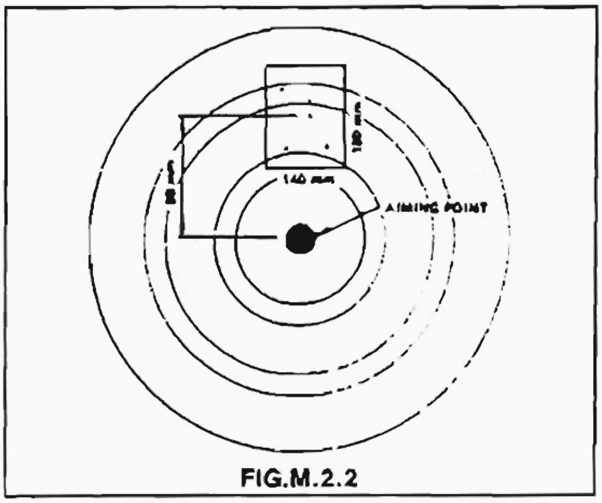


FIG.M.2.2

4. The dispersion of the 5 shots must be in rectangle of:

   a. $\frac{H + L}{2} \leq 400$ mm when firing from a bipod

   b. $\frac{H + L}{2} \leq 300$ mm when firing from a fixed mount.

Where H is the vertical height between highest and lowest point and L is the distance between the extreme left and right points.

FRONT SIGHT ADJUSTMENT:

5. The front sight, adjustable upwards and downwards, is altered when the MPI is above or below the aiming point.

6. Using the combined stripping pin and key tool adjust front sight upwards if the MPI is above aiming point and downwards if below. See Fig. M.2.3.

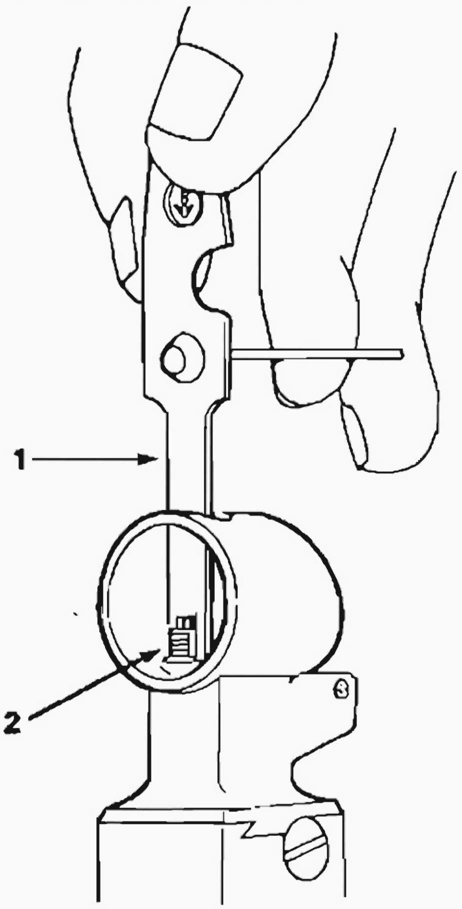


FIG. M.2.3

ADJUSTMENT OF FRONT SIGHT

1. Tool, Stripping Pin and Key.
2. Front, Sight.

7. Table M1 gives the amount of adjustment to front sight either up or down, for target sight deviation correction.

TABLE M1

FRONT SIGHT ADJUSTMENT		
RANGE	UP OR DOWN ADJUSTMENT	SIGHT DEVIATION CORRECTION
25 Metres	½ Turn	20 mm
	1 Turn	40 mm
100 Mtrs.	½ Turn	40 mm
	½ Turn	80 mm
	¾ Turn	120 mm
	1 Turn	160 mm

FRONT SIGHT BASE ADJUSTMENT:

8. The front sight base, adjustable to the left or right, is altered when the MPI is to the left or right of the aiming point. If the MPI is to the left, the sight base must be moved to the left, and if to the right of the aiming point, adjust the sight base to the right. See Fig. M.2.4

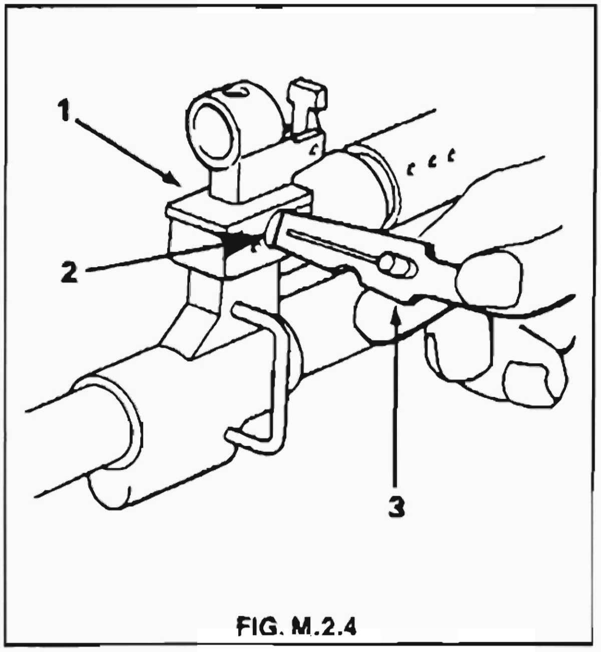


FIG. M.2.4

ADJUSTMENT OF FRONT SIGHT BASE

1. Base, Front Sight.
2. Screws, Adjusting.
3. Tool, Stripping Pin and Key.

9. If shots are to the right of aiming point, loosen right hand adjusting screw, using stripping pin and key tool. Tighten left hand adjusting screw until the desired setting is achieved and then retighten right hand adjusting screw.
10. If shots are to the left of aiming point, loosen left hand adjusting screw and then tighten the right hand adjusting screw until the desired setting is achieved. Retighten the left hand adjusting screw.
11. Check that sights are accurate by firing the weapon in accordance with par. 2 and par. 3.
12. Table M2 gives the amount of adjustment to sight base for sight deviation correction.

TABLE M2

FRONT SIGHT BASE ADJUSTMENT:		
RANGE	LEFT OR RIGHT HAND SCREW ADJUSTMENT	SIGHT DEVIATION CORRECTION
25 Metres	½ Turn	20 mm
	1 Turn	40 mm
100 Mtrs.	½ Turn	40 mm
	½ Turn	80 mm
	¾ Turn	120 mm
	1 Turn	160 mm

OPTICAL ADJUSTMENT OF SIGHT:

13. Sight adjustment can be adjusted with the aid of an Eliraz Muzzle Optical instrument which is supplied with the instrument.

a. Zeroing of master weapon.
b. Calibration of Eliraz device.
c. Weapon sight adjustment.

For detail operation of these steps refer to the Eliraz Instruction Manual which is supplied with the instrument.

14. Place weapon on a high table, fully insert Eliraz into muzzle end of barrel and pull back just a little, ensuring that instrument is vertical to barrel and in line with eye. Position rear sight to 300 metres and aim through the sights to the aiming point in the instrument. See Fig. M.2.5.

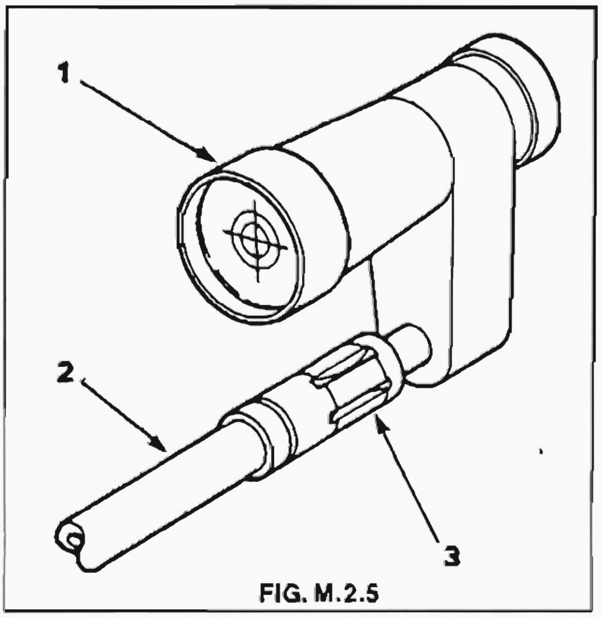


FIG. M.2.5

'ELIRAZ' MUZZLE OPTICAL INSTRUMENT

1. Instrument, Optical, Muzzle, 'Eliraz'.
2. Barrel.
3. Hider, Flash.

WARNING:
Before starting adjustments, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty and check that no ammunition is in a position to be introduced.

15. If the sight alignment is pointing above aiming point, lower front sight and vice-versa. If sight alignment points to the right of aiming point, move front sight base to the right and vice-versa.

TEST FOR OVAL HITS:

16. After weapon has been zeroed, fire 10 rounds onto a cardboard target at a distance of 50 metres. If there are more than 5 elongated (oval) holes, larger than 10 mm long, the weapon must be withdrawn from service so that a new barrel can be fitted at 5th line.

SUB-SECTION M.3

FAULT FINDING, DIAGNOSTIC AND CORRECTIVE PROCEDURES

INTRODUCTION:

WARNING:
Before starting with fault finding, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty, and check that no ammunition is in a position to be introduced.

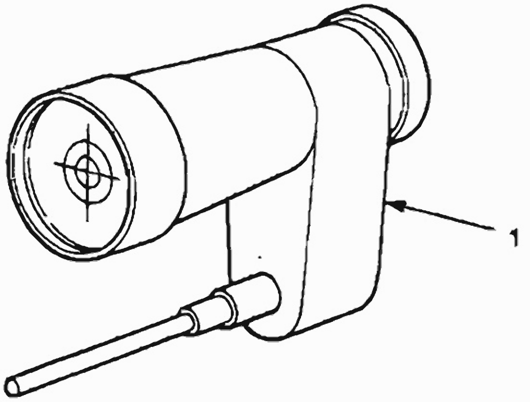
1. This information is useful in diagnosing and correcting unsatisfactory operation or failure of the weapon. Each malfunction stated is followed by a list of probable causes. The corrective action recommended is described opposite the probable cause.

MALFUNCTION A	PROBABLE CAUSE B	CORRECTIVE ACTION C
1. Failure to Feed.	a. Magazine not fitted properly.	Rap magazine base upwards.
	b. Defective magazine spring.	Replace
	c. Damaged or bent magazine casing.	Replace.
	d. Broken front lip on magazine.	Replace magazine.
	e. Defective or broken magazine catch on receiver.	Replace.
	f. Defective magazine catch spring.	Replace.
	g. Accumulated dirt inside magazine.	Remove magazine, clean and replace.
	h. Insufficient gas impact.	Clean all gas passages.
2. Failure to Chamber.	a. Obstruction in chamber.	Remove.
	b. Defective ammunition.	Replace ammunition.
3. Failure to lock.	a. Headspace to tight.	Check headspace.
	b. Weak return spring.	Replace.
	c. Excessive dirt on bolt.	Clean.
	d. Dirt in extractor housing.	Clean.
4. Failure to fire.	a. Defective ammunition.	Replace ammunition.
	b. Defective hammer or spring.	Replace.
	c. Defective firing pin.	Replace.
	d. Defective disconnector or spring.	Replace.
	e. Minimum firing pin protrusion.	Replace firing pin.
5. Failure to unlock.	a. Low gas pressure caused by blocked gas passages.	Clean all gas passages.

6. Failure to extract.	a. Defective extractor or spring.	Replace.
	b. Dirty barrel chamber.	Clean.
	c. Low gas pressure caused by blocked gas passages.	Clean all passages.
	d. Defective return spring.	Replace.
7. Failure to eject.	a. Low gas pressure caused by blocked gas passages.	Clean all gas passages.
	b. Defective extractor or spring	Replace.
	c. Defective return spring.	Replace.
	d. Damaged ejector.	Receiver to be replaced by 5th line.
8. Failure to Cock.	a. Low gas pressure caused by blocked gas passages.	Clean all passages.
	b. Defective return spring.	Replace.
	c. Defective hammer.	Replace.
	d. Defective sear.	Replace.
	e. Defective trigger.	Replace.
	f. Defective disconnector.	Replace.
9. Firing Stoppages (Weapon ceases to operate when on automatic).	a. Defective disconnector or spring.	Cock weapon by hand and examine spent case. A slight indentation on cartridge will confirm defective disconnector or spring. Replace faulty component.
	b. Defective ammunition.	Cock weapon by hand and examine ejected live round. If cartridge is properly indented, but not activated, ammunition is faulty. Change ammunition.
	c. Broken sear.	Replace.
10. Uncontrolled Shots ("Runaways").	a. Defective Sear.	Replace.
	b. Defective trigger.	Replace.
11. Ruptured Cartridge Case.	a. Defective ammunition.	Remove spent case from chamber.
	b. Excessive headspace.	Check headspace and replace either bolt or bolt carrier, or both.

SUB-SECTION M.4

SPECIAL WORKSHOP TOOLS



ITEM	TOOL NO.	DESCRIPTION	REPAIR LINE 1 2 4
1	356/06511/5000/▽/09	Boresight, 'Eliraz'	X X X

SECTION N

FINAL INSPECTION

INTRODUCTION

WARNING:
***Before starting** an inspection, be sure to clear the **weapon. Do not** actuate the trigger until the weapon **has been cleared.** Inspect the chamber to ensure that it is empty and check that no ammunition is in a position to be introduced.*

1. Final inspection is an acceptance inspection performed by an inspector after repairs have been completed, to ensure that the weapon is acceptable for return to the user or stores.

INSPECTION GUIDE

TO BE INSPECTED A	FINAL INSPECTION B
1. Finish	1. Metal finishes according to specification. 2. Painted surfaces for rust under paint and for excessive scratches.
2. Bolt Mechanism Group	1. Number on bolt or side of receiver correspond to serial number on underside of barrel. 2. Firing Pin protrusion (0,600 mm — 0,875 mm). 3. Firing pin point profile. 4. Piston guide guide tube for condition and secureness of spring. 5. Bolt carrier for rearward and forward movement. 6. Extractor gap (1,54 mm — 2,00 mm) gauge. 7. Free movement about piston centre line is at least 0,8 mm. 8. Gas piston is clean.
3. Barrel Group.	1. Secureness and condition of grip handle. 2. Secureness and condition of handgaurd assembly. 3. Secureness and condition of flash hider. 4. Centre-punching on flash hider to retain spring ends. 5. Barrel and bore is serviceable. 6. Serial number on barrel corresponds to number on bolt assembly dust cover and receiver where applicable. 7. Secureness of gas block on barrel.
4. Trigger Mechanism Group	1. Functioning of change levers. 2. Location of disconnector spring arm in trigger. 3. Functioning of disconnector, sear, hammer and trigger.
5. Receiver Group	1. Functioning and secureness of magazine catch. 2. Secureness and condition of bullet lead platform. 3. Condition of locking shoulder. 4. Condition of ejector.
6. Headspace.	1. Check headspace using appropriate gauges.
7. Butt Group.	1. Functioning of the butt assembly, locking and releasing in both positions. 2. Secureness of bracket butt to receiver.
8. Bipod Group.	1. Functioning of bipod in both positions.

SECTION N

FINAL INSPECTION

9. Sight Group.	1. Functioning of rear sight and night sight about their axis. 2. Rear sight base is secure to dust cover. 3. Peening of rear sight axis screw. 4. Secureness of front sight. 5. Both adjusting screws fitted to front sight. 6. Front sight is fitted. 7. Functioning of front night sight about its axis. 8. Secureness, condition and function of Beta Light in front and rear sight.
10. Cover Group.	1. Cover for correct fitting and condition. 2. Number of dust cover corresponds to serial number on barrel or receiver.
11. Magazine.	1. Condition and functioning.
12. Preservation.	1. Preservation carried out according to specification.
13. Cleaning Kit.	1. Cleaning kit for condition and full complement.
14. Packing.	1. Packing according to specification. 2. Storage case is serviceable.

SECTION Y

PRESERVATION AND PACKING

SUB-SECTION Y.1

PRESERVATION AND PACKING

INTRODUCTION:

WARNING:
Before starting preservation procedures, be sure to clear the weapon. Do not actuate the trigger until the weapon has been cleared. Inspect the chamber to ensure that it is empty and check that no ammunition is in position to be introduced.

1. Preservation and packing of the rifle is a function that completes the cycle of the repairs and/or overhaul before the weapon leaves the workshop.

PRESERVATION:

2. The preservation for short and long term preservation is Chemrand 563.

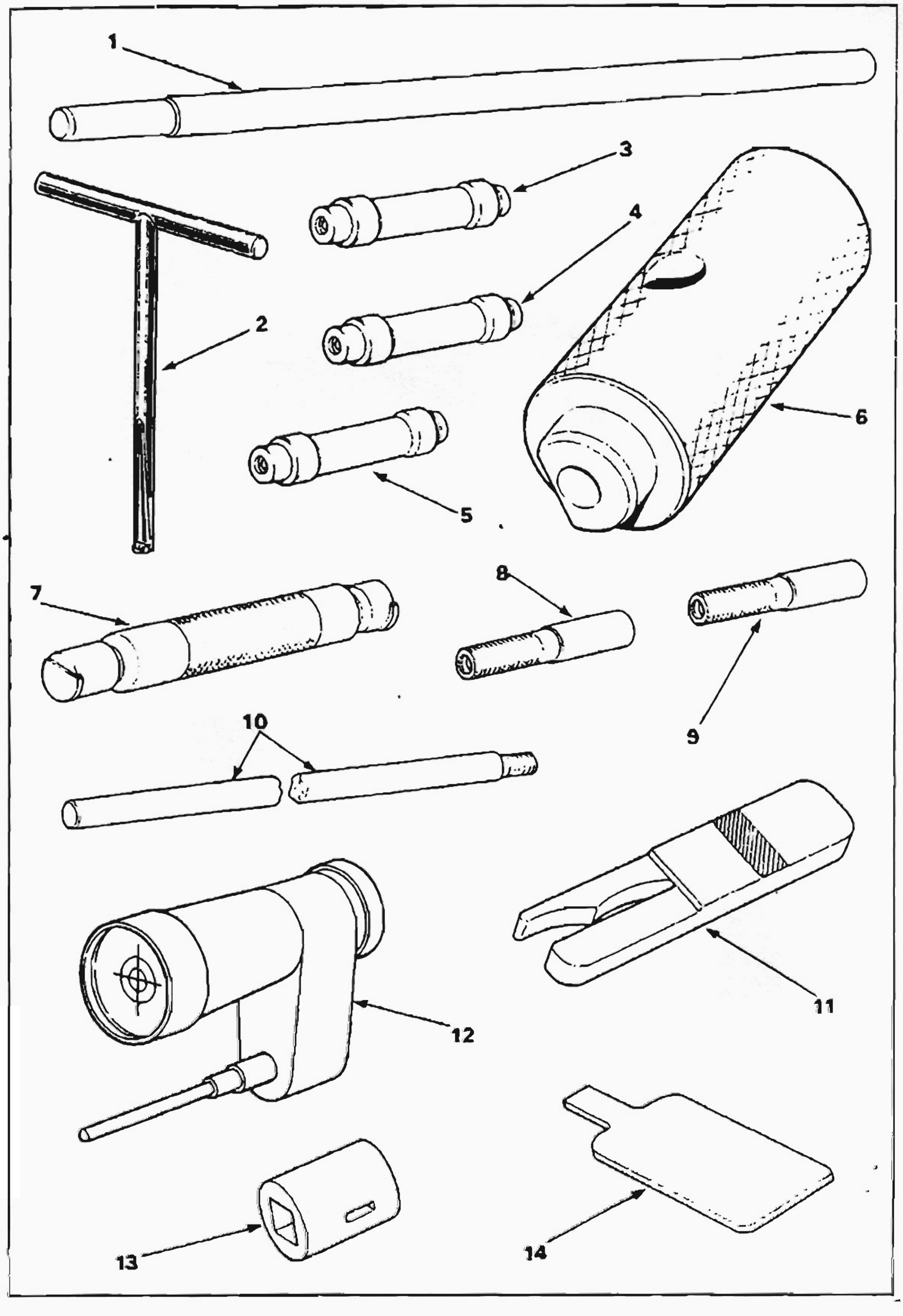
3. The method of application will differ according to the facilities available. Where no dipping facilities are available, the weapons are to be field stripped, components oiled and assembled again. The exterior of the weapons are to be oiled, using a clean, oiled cloth. Where facilities are available, the weapons are completely immersed in oil. Allow to drain by placing vertically on rack until dripping has ceased.

PACKING:

4. After preservation, the weapons are to be placed into storage cases, where cases are available.

SECTION Z

SUMMARY OF WORKSHOP TOOLS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